Ƙam, Chih₌Min (AU1653).

To: Cc: Subject: Schreiber, David

Kam, Chih-Min (AU1653)

sequence search for 09/913,351

David:

Please do amino acid search with commercial data file. Thanks

Chih-Min Kam

NAME: Chih-Min Kam

AU: 1653 Date:9/8/02 Room: 10D16 Mail Box:CM1, 9B01 Tel:308-9437

Application No:09/640,957.

Please search the following amino acid sequence(s) with commercial data file.

The claims cites a dimer (a conjugate) which has a minor subunit and a major subunit, where the minor subunit is

1. SEQ ID NO:2

2. SEQ ID NO:4

and the majorsubunit is

3. SEQ ID NO:3

4. SEQ ID NO:5

What is the best way to search this?

(1

11

SEQ2020: 1 variable aa

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Alsting LL.

A Geneseq_032802:*

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Copyright (c) 1993 - 2000 Compugen Ltd
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(without alignments)
43.443 Million cell updates/sec
Castor bean 2S alb
Synthetic 12 Kd pr
Part of the sequen
puroindoline B pro
Serine substituted
Wild-type Brazil n
Modified Brazil nu
Drosophila melanog
Ara h 2 protein fr
Peanut allergen Ar
Peanut allergen Ar
                                                                                                                                                                                                                                                                                                                                                                                                   Description
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ALIGNMENTS

RESULT AAB15420

AAB15420 standard; peptide;

37 A

AAB15420;

17-JAN-2001 (first entry)

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Antitumour; antimicrobial; immunostimulatory; glycoconjugate; mannose; polysaccharide; mannose; galactose; castor bean; immune response; human; 2S albumin storage protein; animal; tumour necrosis factor; mononuclear;
New glycoconjugate, useful for treating immunological disorders, comprises polysaccharide from Candida utilis and polypeptide from
                                         WPI; 2000-558369/51.
                                                                   Brieva Delgado A,
Pivel Ranieri JP,
                                                                                                                                                                                                                                                   Ricinus communis.
                                                                                                                                                                                                                                                                                                                                                 Castor bean 2S albumin storage protein amino acids 36-72
                                                                                                                                         26-FEB-1999;
                                                                                                                                                                                              31-AUG-2000.
                                                                                                                                                                                                                        WO200050087-A1.
                                                                                                                                                                                                                                                                             phagocyte; granulocyte; macrophage;
                                                                                                             (INFA-) IND FARM CANTABRIA SA.
                                                                                                                                                                   21-OCT-1999;
                                                                                                                                       99ES-0000408.
                                                                                                                                                                   99WO-ES00338.
                                                                   Garcia Villarrubia V, Guerrero Gomez-Pamo Gimenez Gallego G, Matji Tuduri JA;
                                                                                                                                                                                                                                                                             tumour; immunogen; Candida utilis.
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RESULT
AAR62762
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the consensus sequence:

ZaCZbC(QERK)Z(Z')(LIVM)ZcCC(Z')(QEH)(LV)Z6CZCZZZdGZeCZ(VILM)ZfCZg

ZaCZbC(QERK)Z(Z')(LIVM)ZcCC(Z')(QEH)(LV)Z6CZCZZZdGZeCZ(VILM)ZfCZg

where Z = any amino acid (aa); Z' = hydrophobic aa; Z' = hydrophobic aa; Z' = 1-8; g = 1-11;

a = 3-48; b = 9-13; C= 15-39; d = 13-56; e = 15-26; f = 1-8; g = 1-11;

a = 3-48; b = 9-13; C= 15-39; d = 13-56; e = 15-26; f = 1-8; g = 1-11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50-250 kDa polysaccharide (PS), containing one phosphate group per 5-25 monosaccharide units, and a polypeptide (PP) having a particular consensus sequence. In PS, at least 40% of the monosaccharide residues are mannose and the remainder are glucose and/or galactose. The main chain comprises 1-6 links, with less than 60% 1,2-branching. The PP has
                          Improving stability of protein or peptide in yeast by expressing with a peroxisomal targetting sequence, allowing accumulation of unstable or toxic products, and new yeast s
                                                                                                                                                                                                                                                                                                                                                                  Stabilisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                 07-JUL-1995
                  useful
                                                                                                                                             Ito H,
                                                                                                                                                                                                          19-APR-1993;
                                                                                                                                                                                                                                          19-APR-1994;
                                                                                                                                                                                                                                                                         27-OCT-1994
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                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic 12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR62762 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a novel glycoconjugate (A) comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
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                                                                                                                                                                                                                                                                                                                                                                  toxic; peroxisome; yeast; food additive; brazil nut
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                             new yeast strains
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                                                                                                                            Recombinant DNA expression in plants
- using modified storage protein genes for expressing heterologous polypeptide(s) in the seeds
  The entire 2S-albumin storage protein precursor including signal peptide. It is to be inserted into plants under the control of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PBN2S1 plasmid.
                                                                             Fig 4; ; 121pp; English.
                                                                                                                                                                                                                                                           WPI; 1989-150783/20.
                                                                                                                                                                                                                                                                                                            Vandekerckhove
                                                                                                                                                                                                                                                                                                                                                                                                            20-OCT-1987;
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heterologous polypeptide.
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                                                                                                                                                                                                                                   AAN91699
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                             GENETIC
                                                                                                                                                                                                                                                                                                            JS,
                                                                                                                                                                                                                                                                                                                                                                                                            87EP-0402348
                                                                                                                                                                                                                                                                                                                                                                                                                                                          88WO-EP00944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="processing site" 44..136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="mature small subunit"
39..43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="signal peptide"
31..38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="mature large subunit"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40pp;
                                                                                                                                                                                                                                                                                                            Krebbers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of the Brazil nut 2S-albumin
                                                                                                                                                                                                                                                                                                                                                             SYST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               French.
                                                                                                                                                                                                                                                                                                            'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 61.5;
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25
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                                                                                                                                                                                                                                                                                                            Botterman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
.93;
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                                                                                                                                                                                                                                                                                                            Leemans
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       110;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in
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밁 Qy

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RESULT
AAY58049
                                 This is the wheat puroindoline B protein sequence. Friabilin is a 15kD CC marker protein for grain softness, and is composed of Puroindoline A and CC puroindoline B. Friabilin is present in high amounts on the surface of CC soft wheat starch, and in low amounts on hard wheat starch. The CC affinity for binding lipids. Puroindoline A and puroindoline B are used CC in the production of transgenic plants with modified grain hardness. The CC invention can be used to produce plants with softer grain texture, where CC plants are produced through the introduction of a nucleic acid sequence which operably encodes a puroindoline protein into a cell from the parent CC plant, progeny plants are generated for the cell containing the nucleic acid sequence. The methods can be used for producing transgenic plants of softer textured grain from plants such as durum wheat, sorghum, CC rice, barley and maize. They can also be used for producing transgenic plants with harder textured grain from plants such as wheat, rye, CC triticale and oat. The modification of the grain texture results in containing which receive less million
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
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ខ្លួន
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Best Local Similarity 40.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a seed-specific promoter and expressed at high levels only or mostly in the seed forming stage and produced mostly in the seeds.
                                                                                                                                                                                                                                                                                                                Examples; Page 62; 75pp; English
                                                                                                                                                                                                                                                                                                                                              Altering grain hardness in plants by modifying expression puroindoline proteins
                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAZ47520.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-MAY-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Triticum aestivum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          oat; triticale.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          grain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14-MAR-2000
                            softer grains which require less milling
                                                                                                                                                                                                                                                                                                                                                                                                                                         Morris CF, Giroux MJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (RERE-) RES & DEV INST INC.
(USDA) US DEPT OF AGRICULTURE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Puroindoline B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Puroindoline B protein sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY58049 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGSSSQQCRQEVQRKD-LSSCERYLRQ 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        texture;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 140 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0083852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       transgenic plant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US11379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       friabilin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein; 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       grain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 61.5;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    softness; wheat; starch; grain hardness;
sorghum; rice; barley; maize; rye;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10;
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Query Match
Best Local Similarity
Matches 13; Conserv

Conservative

31.2%;

Score 58; DB Pred. No. 3.8; 3; Mismatches

DB 3.8;

Length 148;

Indels

2;

Gaps

1;

Sequence

148

A,

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RESULT
AAY58050
CC Puroindoline A and Puroindoline B. Friabilin is present in high amounts CC on the surface of soft wheat starch, and in low amounts on hard wheat CC starch. The puroindolines have tryptophan-rich, hydrophobic domains which CC have affinity for binding lipids. Puroindoline A and puroindoline B are CC used in the production of transgenic plants with modified grain taxture, CC The invention can be used to produce plants with softer grain texture, CC where at least one parent plant has a hard texture grain. The softer CC grained plants are produced through the introduction of a nucleic acid concerns the nucleic acid sequence which operably encodes a puroindoline protein into a cell from CC the parent plant, progeny plants are generated for the cell containing the nucleic acid sequence. The methods can be used for producing transgenic plants with softer textured grain from plants such as wheat, sorghum, rice, barley and maize. They can also be used for producing transgenic plants with harder textured grain from plants such as wheat, rye, triticale and oat. The modification of the grain texture cresults in softer grains which require less milling.
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Best Local Similarity
Matches 13; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Puroindoline B; friabilin; grain softness; wheat; starch; grain hardness;
grain texture; transgenic plant; sorghum; rice; barley; maize; rye;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This is the wheat serine substituted puroindoline B protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 63; 75pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Altering grain hardness in plants by modifying expression puroindoline proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Morris CF, Giroux MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Triticum aestivum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-MAR-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2000-062702/05
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(USDA ) US DEPT OF AGRICULTURE.
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| |||| || | ||||: |: :
34 gggsqqcpqe--rpklssckdyvme 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       σ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    puroindoline B protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 58; DB Pred. No. 3.8; 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA
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01-MAR-1999

(first entry)

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ID AAW8
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ID AAW8
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                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                               This represents a wild-type Brazil Nut 2S albumin seed storage protein. The invention relates to modified Brazil Nut 2S albumin proteins that are rich in essential amino acids and nucleic acids encoding the modified proteins. The modified Brazil nut 2S albumin are selected from a group comprising of BNCNSS, BNI1, BNI15, BNI7, BNI8, BNI9, BNI53KW, AT2SIBNI5, AT2SIBNI9, AT2SIBNI53W genes. Chimeric genes comprising a nucleic acid fragment encoding a modified Brazil nut 2S
               AAW86265;
                                       AAW86265
                                                                                                                                                                                                                                                                                                                                                                                                                                                  transgenic seed crops whose essential amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brazil Nut 28 albumin; seed storage protein; mou
BN15; BN17; BN18; BN19; BN155KW; AT2SIBN15; AT2S
chimeric; dietary protein; essential amino acid.
                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                               the genome of a transformed plant can be can be used in methods for increasing the essential amino acid content of seeds. The products can used to provide a human and animal dietary protein in seed crop plants that is relatively high in essential amino acid content.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wild-type Brazil nut 2S albumin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAW86264;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAW86264 standard; Protein; 111
                                                                                                                                                                                                                                                                                                    protein operably linked to suitable regulatory sequences, integrated
                                                                                                                                                                                                                                                                                                                                                                                                                         Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-OCT-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New modified Brazil Nut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (DUPO ) DU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-APR-1998;
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                                                                                                                                                                     Local Similarity
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                                                                                                                    QQCRQEVQRKD-LSSCERYLRQ
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DB; AAV80240.
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                                                                                                      eecreqmqrqqmlshcrmymrq
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                                                                                                                                                                                                                                                                                                                                                                                                                        1; Fig 1; 80pp; English
                                       standard;
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                                       Protein;
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; BN153KW; AT2S1BN15; AT2S1BN19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2S albumin proteins - useful to provide tose proteins have increased levels of
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                                                                                                                                                                     Score 57.5;
Pred. No. 3
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AT2S1BN153W;
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CC proteins and nucleic acids encoding the modified proteins. The modified CC Brazil nut 2S albumin proteins are rich in essential amino acids and the CC encoding genes selected from a group comprising of BNCNSS, BN11, BN15, CC BN17, BN18, BN19, BN153KW, AT2S1BN15, AT2S1BN19, AT2S1BN153W genes. CC Chimeric genes comprising a nucleic acid fragment encoding a modified CC Brazil nut 2S protein operably linked to suitable regulatory sequences, integrated into the genome of a transformed plant can be can be used in CC methods for increasing the essential amino acid content of seeds. The products can be used to provide a human and animal dietary protein in CC seed crop plants that is relatively high in essential amino acid content. CC The present sequence represents the amino acid sequence of a modified CC Brazil Nut 2S albumin gene BNCNSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brazil Nut 2S albumin; seed storage protein; modified; BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; chimeric; dietary protein; essential amino acid.
                                                                                                                                                                                                                                                                               Claim 6; Fig
                                                                                                                                                                                                                                                                                                                    transgenic seed crops essential amino acids
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82
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AT2S1BN153W;
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Sequence

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                                                                                                                                                                                                                       relates to an isolated nucleic acid detection reagent of detecting 1000 or more genes from Drosophila. The invention developmental biology, and in elucidating cell signalling a finteractions in higher enkaryotes for the development of des), therapelitics and pharmaceutical drugs. The invention of the particles of the development of the particles and pharmaceutical drugs. The invention of the particles and the encoded proteins (ABL10176) and the encoded proteins (ABL20174).
                                                                                          Similarity
usgrnprdireeserquireserelreeerrr 526
                                                                                                                                                                                                                                                                                                                                                                        PRINCIPLE NO. 15351; 21pp + Sequence Listing; English.
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                                   EGSSSQQCRQEV@RKDLSSCERYLRQSSSRR 37
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2000US-0614150.
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                                                          30,68: Score 57; DB
36.418: Pred No. 40;
rvative 77; Mismatches
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45.58;
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                                                                                        Score 57; DB 22; Pred. No. 40;
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Pred. No: 3
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                                                                                                       Length 904;
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Arachis hypogaea strain Florunner

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AAY40973
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RESULT 10
AAW24164
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Matches
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                                                                                                                                                                                                                                                                                                                                                   epitopes. The invention also provides an isolated recombinant peanut altergen designated Ara h 3 and a nucleotide molecule encoding the peanut altergen Ara h 3. Molecules of the invention are used to protect a host which is less reactive with IgE. The invention may also be used to ensure that the altergen is not introduced into genetically modified food. The present sequence represents an Ara h 2 protein fragment.
                                                                                                                                                         AAW24164 standard; Protein; 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tertiary structure of peanut allergen Ara animal from allergic reaction -
                                 monoclonal antibody; ELISA; analysis; Ara hII.
                                            Peanut; seed storage protein; allergen; allergy; hypersensitivity; vaccine; anaphylactic shock; immunotherapy; therapy;
                                                                                                                                  AAW24164;
                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention provides a tertiary structure for the peanut allergen Ara H 1. The Ara H 1 allergen is found to contain 23 linear IgE-binding
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                                                                                Peanut allergen Ara hII.
                                                                                                         29-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 104; 193pp; English.
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11-MAR-1999;
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les 11; Conserv
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99US-0077763.
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Pred. No.
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K, Maleki SJ, Kopper
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                                                                                                                                                                                                                                                                                           Length 156;
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Matches 11; Conserv
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       isolated Ara hI peptide (see AAW24151). The sequence shows significant homology with the conglutin family of seed storage proteins of other legumes. The allergen is recognised by serum IgE from a large proportion of individuals with peanut hypersensitivity. Ara hII and Ara hI (see AAW24149-50) can be used raise monoclonal antibodies which are used in a specific two-site MAD ELISA for the detection of Ara hI or Ara hII (claimed). IgE-binding Ara hII antigen epitopes (see AAW24188-93) may be used in vaccines to protect against allergic reactions to peanut allergens,
                                                                                                                                                                  Peanut; seed storage protein; allergen; allergy; hypersensitivity; vaccine; anaphylactic shock; immunotherapy; therapy; monoclonal antibody; ELISA; analysis; Ara hII.
                           04-MAR-1996;
29-DEC-1995;
(UYAR-) UNIV ARKANSAS
                                                                                                                                                                                                                                                                                                      AAW24153 standard; Protein; 157 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Its sequence was deduced from cDNA clone P38 (AAT76614), isolat from peanut seed cDNA using a primer (see AAT76617) based on an isolated Ara hI peptide (see AAW24151). The sequence shows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-MAR-1996;
29-DEC-1995;
                                                               23-SEP-1996;
                                                                                          10-JUL-1997
                                                                                                                   W09724139-A1
                                                                                                                                           Arachis hypogaea strain Florunner
                                                                                                                                                                                                                       Peanut allergen Ara hII.
                                                                                                                                                                                                                                                29-DEC-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            e.g. anaphylactic shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This polypeptide comprises major peanut allergen Ara hII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            two-site monoclonal antibody based ELISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Peanut allergens Ara hI and Ara hII - used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; AAT76614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1997-363453/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bannon GA, Burks AW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYAR-) UNIV ARKANSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-SEP-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-JUL-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9724139-A1
                                                                                                                                                                                                                                                                                                                                11
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                                                                                                                                                                                                                                                                                                                                                                                             1 ESKGEREGSSSQQCRQEVQRKDLSSCERYLRQSSSR 36
                                                                                                                                                                                                                                                                                                                                                                   elqgdr----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Page 219;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     157
                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A
                           96US-0610424
95US-0009455
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95US-0009455
                                                                 96WO-US15222
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                                                                                                                                                                                                                                                                                                                                                                rcqsqleranlrpceqhlmqkiqr 52
                                                                                                                                                                                                                                                                                                                                                                                                                                29.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               354pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cockrell G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English
                                                                                                                                                                                                                                                                                                                                                                                                                     ; Score 55; DB 18; pred. No. 10; 10; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Helm RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for
                                                                                                                                                                                                                                                                                                                                                                                                                       9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Stanley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vaccination and
                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 157;
                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            isolated
                                                                                                                                                                                                                                                                                                                                                                                                                     6,
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                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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Qy
RESULT 12
AAY15245
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This polypeptide comprises major peanut allergen Ara hII.

Its sequence was deduced from a cDNA clone (AAT76615) isolated from peanut seed cDNA using a primer (see AAT76617) based on an isolated Ara hI peptide (see AAW24151). The sequence shows significant homology with the conglutin family of seed storage proteins of other legumes. The allergen is recognised by serum IgE from a large proportion of individuals with peanut hypersensitivity. Ara hII and Ara hI (see AAW2419-50) can be used raise monoclonal antibodies which are used in a specific two-site MAD ELISA for the detection of Ara hI or Ara hII (claimed). IgE-binding Ara hII antigen epitopes (see AAW24189-93) may be used in
                                                                                                                                                                                                                                                                                   allergy; immune response; transgenic;
immunoglobulin E; Ig E; binding site;
           N-PSDB; AAZ06383
                     WPI; 1999-479189/40
                                                                (SOSI/) SOSIN H.
(UYAR-) UNIV ARKANSAS
(UYNY) UNIV NEW YORK
                                                                                                                          13-FEB-1998;
13-FEB-1998;
                                                                                                                                                   27-AUG-1998;
31-JAN-1998;
                                                                                                                                                                                       29-JAN-1999;
                                                                                                                                                                                                                                     W09938978-A1
                                                                                                                                                                                                                                                            Arachis hypogea
                                                                                                                                                                                                                                                                                                                    Peanut allergen, Ara h 2,
                                                                                                                                                                                                                                                                                                                                              09-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                           AAY15245 standard; Protein; 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   e.g. anaphylactic shock.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vaccines to protect against allergic reactions to peanut allergens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peanut allergens Ara hI and Ara hII - used two-site monoclonal antibody based ELISA
                                            Bannon GA,
                                                                                                                                                                                                               05-AUG-1999.
                                                                                                                                                                                                                                                                                                                                                                     AAY15245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1997-363453/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bannon GA,
                                                                                                                  13-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 elqgdr----rcqsqleranlrpceqhlmqkiqr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ESKGEREGSSSQQCRQEVQRKDLSSCERYLRQSSSR 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 30.0
11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAT76615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 198;
                                           Burks AW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             157 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Burks AW,
                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                               98US-0141220.
98US-0073283.
98US-0074590.
98US-0074624.
98US-0074633.
                                                                                                                                                                                       99WO-US02031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       354pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29.6%;
30.6%;
                                                                  MT SINAI SCHOOL MEDICINE
                                            Sampson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cockrell G,
                                                                                                                                                                                                                                                                                                                       amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred.
                                            HΑ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                            A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No.
                                            Sosin H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Helm
                                                                                                                                                                                                                                                                                    allergen;
peanut.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                     52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for vaccination and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stanley JS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 157;
                                                                                                                                                                                                                                                                                               epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
The sequence represents the amino acid sequence of anaphylactic antigen Ara h 2 is an anaphylactic antigen (A), which was used to design antigenic peptides having a reduced ability to bind immunoglobulin E (IgE) as compared with the intact (A), or having a sequence substantially identical to a portion of sequence of an antigen that includes at least one IgE binding site, where at least one IgE binding site of the peptide is altered. The antigenic peptides are used in a composition which is useful for reducing risk or severity of allergic reaction to an antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      epitopes,
AAY15276)
                                                                                                                                                                                                             Bannon
                                                                                                                                                                                                                                   (UYAR-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This is
                                                                                                             Claim
                                                                                                                                     sensitive
                                                                                                                                                             Antigenic
                                                                                                                                                                                      WPI; 2001-381378/40
                                                                                                                                                                                                                                                                                             06-DEC-1999;
23-JUN-2000;
                                                                                                                                                                                                                                                                                                                                  06-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                          07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                  WO200140264-A2
                                                                                                                                                                                                                                                                                                                                                                                                                               allergy;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Ara h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Anaphylactic antigen Ara h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU04707;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAU04707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 provoke an important binding sites
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        By modifying the IgE binding sites the ability of the allergen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        allergies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified allergen with reduced IgE binding, useful for treating e.g.
                                                                                                                                                                                                                                                           (PANA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity es 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ESKGEREGSSSQQCRQEVQRKDLSSCERYLRQSSSR 36
                                                                                                                                igenic fragments useful for reducing anaphylactic risk and reducing severity and/or number of allergic symptoms in individuals sitive to antigens, have reduced ability to bind Immunoglobulin E -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      animals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   elggdr----
                                                                                                                                                                                                                                                                                                                                                                                                                                            2;
                                                                                                             7;
                                                                                                                                                                                                             GA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <del>..</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the amino acid sequence of the Ara h 2 protein f. The Ara h 2 protein has 10 IgE (Immunoglobulin s, three of which are immunodominant (AAY15272, A
                                                                                                                                                                                                                                   PANACEA PHARM LLC.
UNIV ARKANSAS.
MOUNT SINAI SCHOOL MEDICINE NEW YORK.
                                                                                                            Fig 10; 100pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                            anaphylactic antigen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                  mast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immune response is downregulated. The epitopes of tes can therefore be modified in genetically engine s to elicit less of an allergic response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157
                                                                                                                                                                                                            Burks WA,
                                                                                                                                                                                                                                                                                  99US-0455294.
2000US-0213765.
2000US-0235797.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                  2000WO-US33124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                               cell; basophil;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -rcqsqleranlrpceqhlmqkiqr 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            46pp;
                                                                                                                                                                                                            Caplan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 55;
Pred. No.
                                                                                                                                                                                                             ĽM,
                                                                                                                                                                                                                                                                                                                                                                                                                                  mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                         immunoglobulin
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                                                                                                                                                                                                            Sampson H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9;
                                                                                                                                                                                                            Sosin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                           IgE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            immunogenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            157;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                engineered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               n E) binding
AAY15275, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arachis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
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RESULT 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This is done by identifying an individual at risk of allergic reaction to an antigen by identifying prior display of allergic symptoms when exposed to the antigen, or a familial relationship with an individual who previously displayed allergic symptoms when exposed to the antigen. Following this an antigen-specific IgE present on one or more mast cells or basophils in the individual's serum is identified. The individual is then contacted with a peptide corresponding to a portion of the antigen, which is selected, formulated, and delivered so that binding of the composition is also useful for treating and the compared with IgE binding of intact antigen. The composition is also useful for treating and the composition is also useful for treating and composition.
                                  The invention provides a tertiary structure for the peanut allergen Ara H 1. The Ara H 1 allergen is found to contain 23 linear IgB-binding epitopes. The invention also provides an isolated recombinant peanut allergen designated Ara h 3 and a nucleotide molecule encoding the peanut allergen Ara h 3. Molecules of the invention are used to protect a host animal from allergic reaction, particularly using a modified allergen which is less reactive with IgE. The invention may also be used to ensure that the allergen is not introduced into genetically modified
                                                                                                                                                         Disclosure; Page
                                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                 Tertiary
                                                                                                                                                                                                                                                                Burks W,
                                                                                                                                                                                                                                                                                                                   12-MAR-1998;
11-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                    16-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                            W09945961-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                     Arachis hypogea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 allergic reaction;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peanut;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Recombinant Ara h 2 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY40968;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY40968 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                          (UYAR-) UNIV ARKANSAS.
                                                                                                                                                                                                                                                                                                                                                           12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 elqgdr----rcqsqleranlrpceqhlmqkiqr 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               preventing allergic reactions.
                                                                                                                                                                                                                          1999-551218/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESKGEREGSSSQQCRQEVQRKDLSSCERYLRQSSSR
                                                                                                                                                                                   from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             allergen;
                                                                                                                                                                                                                                                    Η,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                structure of peanut allergen
                                                                                                                                                                                                                                                               Helm RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        157 AA;
                                                                                                                                                                                  allergic reaction
                                                                                                                                                                                                                                                   Compadre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                  98US-0077763
99US-0077763
                                                                                                                                                                                                                                                                                                                                                          99WO-US05494
                                                                                                                                                         81; 193pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ara H 1; IgE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ara h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein;
                                                                                                                                                                                                                                                               Cockrell
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Matches 11; Conserv
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                                                                                                                                                            The present sequence is that of the peanut allergenic protein (AP) encoded by the Ara h2 gene (see AAF90336). The invention relates to a method for producing a peanut plant having reduced, or undetectable, AP content in its seed. A peanut plant cell is transformed with a DNA construct containing an antisense AP gene and/or sense AP gene, or their fragments, regenerated to plants, and fertile transgenic plants that produce seeds with reduced AP content are identified. The AP sense or antisense gene may comprise at least a portion of the Ara h2 gene sequence. The seed are useful for preparation of allergen-free foods. Recombinant AP may be produced and used to produce antibodies useful for detectin AP in foods, and for treatment or prevention of peanut allergy.
                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                          allergen-encoding genes
                                                                                                                                                                                                                                                                                                                                                                                      Producing transgenic peanut plants that produce allergen-free seeds, useful in non-allergenic foods, by antisense or sense co-suppression of
                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-355630/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dodo HW,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peanut; allergen; Ara h2; transgenic plant; allergy.
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| :|:| :|: :::| :| ||::| | | 26 elggdr----rcqsqleranlrpceqhlmqkiqr 55
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                                                                              29.6%;
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Search completed: September 9, 2002, 12:42:39 Job time: 191 sec
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Result
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Perfect score:
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1: /cgn2_6/ptodata/2,
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Match
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Copyright (c) 1993 - 2000 Comp
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     US-08-670-186-4
US-08-670-186-6
US-08-911-853-9
US-08-911-853-9
US-09-479-453-9
US-09-990-140-2
US-09-990-140-2
US-08-944-231-19
US-08-942-433A-19
US-08-942-433A-19
US-08-630-915A-26
US-08-618-911-4
US-08-618-911-4
US-08-912-443-4
US-08-913-675A-2
US-08-938-675A-2
US-08-938-675A-2
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US-08-938-675A-2
US-08-938-675A-2
US-08-938-573-098-43
US-08-938-574A-43
US-08-938-74A-43
US-08-938-74A-43
US-08-938-74A-43
US-08-931-974B-2
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Sequence 10, Appl	Sequence 2, Appli	Sequence 4, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 3, Appli	Sequence 29, Appl	Sequence 14, Appl	Sequence 13, Appl	Sequence 12, Appl	Sequence 3, Appli	Sequence 13, Appl	Sequence 2, Appli	Sequence 3, Appli				

ALIGNMENTS

; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-670-186-4 RESULT 1 US-08-670-186-4 REFERENCE/DOCKET NUMBER: 2346: TELECOMMUNICATION INFORMATION: TELEPHONE: (202) 887-1500 TELEPAX: (202) 822-0168 TELEX: 90-4030 MRSNFOERSWSH INFORMATION: 4: SEQUENCE CHARACTERISTICS: LENGTH: 158 amino acids TYPE: amino acid ZIP: 20006-1888 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/670,186 FILING DATE: 21-JUN-1996 CLASSIFICATION: 435 ATTORNEY/AGENT INFORMATION: NAME: MURASHIGE, KATE H. REGISTRATION NUMBER: 29,959 Sequence 4, Application US/08670186 Patent No. 5859343 GENERAL INFORMATION: APPLICANT: HU, ZHONG APPLICANT: CHEN, HANG TITLE OF INVENTION: RECOMBINANT SWEET PROTEIN MABINLIN NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS: CORRESPONDENCE ADDRESS: ADDRESSEE: MORRISON & FOERSTER STREET: 2000 PENNSYLVANIA AVE POLITY: WASHINGTON COUNTRY: USA ZIP: 20006-1888 SUN, XIONG, LIWEN SAMUEL S.M. 23461-20007.00 WW,

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US-08-670-186-6
                                                                                                                                                                                                                  Sequence 7, Application US/08706391B Patent No. 6174725
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APPLICANT: SUN, S
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                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: ANDERSON, OLIN D
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REFERENCE/DOCKET NUMBER: 23
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: 'Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/0 FILING DATE: 21-JUN-1996
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                                                                                   CORRESPONDENCE ADDRESS:

ADDRESSEE: USDA, AGRICULTURAL RESEARCH SERVICE, PACIFIC WEST
                                                                                                                                    NUMBER OF SEQUENCES: 11
                                                                                                                                                                   TITLE OF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
COUNTRY: USA
ZIP: 94710
                                  STATE: CALIFORNIA
                                                                  STREET: 800 BUCHANAN STREET
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27.3%;
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                                                                                                                                                     MODIFIED
                                                                                                                                                                     ALTERING
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                                                                                                                                                                                                                                                                                                                                                                                                       Score 52.5;
Pred. No. 5
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                                                                                                                                                     DOUGH VISCOELASTICITY WITH GLUTENINS
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RESULT 4
US-08-911-853-9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 9, Application US/08911853 Patent No. 6048710
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Best Local Similarity
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                 INFORMATION FOR SEQ
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                                                                                                                                 APPLICATION NUMBER: 08/6 FILING DATE: 16-AUG-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                    SOFTWARE: FastSEQ for Windows Version CURRENT APPLICATION DATA:
                                                                 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                    PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Quax, Wilhelmus J.
TITLE OF INVENTION: EXPRESSIC
TITLE OF INVENTION: EXPRESSIC
TURBER OF SEQUENCES: 37
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                            STREET: 522
                                                                                                   NAME: Glaister, Debra REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                  COMPUTER: IBM CO
OPERATING SYSTEM:
                                             TELEPHONE:
                                                                                   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                      FILING DATE
                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                         MEDIUM TYPE:
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ATTORNMY/AGENT INFORMATION:
NAME: CONNOR, MARGARET A
REGISTRATION NUMBER: 30,043
REFERENCE/DOCKET NUMBER: 0235.95/USDA96-001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                          94304-1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (510) 559-60 TELEFAX: (510) 559-5777
                                                                                                                                                                                                                                                                                                                                                                        CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: not relevant
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 157 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 30-Aug-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/706,391B
                                                                                                                                                                                                                                                                                                                                                                                                          E: Genencor International 925 Page Mill Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FOR SEQ ID NO:
                               650-845-6504
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                                                 650-846-7620
                                                                                                                                                                                                                                                                                                         Diskette
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35.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gijsbert
                                                                                                                                                                    08/699,092
                                                                                                                                                                                                                    US/08/911,853
                                                                                               33,888
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                                                                                   GC361-2
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Pred. No. 6.9;
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RESULT 6
US-09-479-453-9
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Sequence 9, Application US/09479453 Patent No. 6313283
                                                                                                                                                  Matches
                                                                                                                                                                             Query Match
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/479,409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 94304-1013
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
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NAME: Glaister, Debra J
REGISTRATION NUMBER: 33,888
REFERENCE/DOCKET NUMBER: GC:
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ADDRESSEE: Genencor International
STREET: 925 Page Mill Road
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APPLICATION NUMBER: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                         26.9%;
Local Similarity 45.8%;
hes 11; Conservation
                                                                                                                                                                                                                                                 LENGTH: 404 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                     : || || |::| || :: | || 15 QQKGVLEGDSARQVRQLLRDKQLS 38
                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
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CITY: Palo Alto
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TYPE: amino acid
STRANDEDNESS: single
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Quax, Wilhelmus J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
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                                                                                                                                                                                                                                         linear
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45.8%;
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Pred. No.
                                                                                                                                                                Pred. No.
                                                                                                                                                                             Score 50;
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32;
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; LENGTH: 873
; TYPE: PRT
; ORGANISM: HOI
US-08-990-140-2
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                                                                                                                                                                                                                                                                                                                                                    Sequence 2 Patent No.
                                                                    SOFTWARE: PatentIn SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                 APPLICANT: Methot, Nathalie
APPLICANT: Rom, Eran
TITLE OF INVENTION: Human Prtl-like Subunit Protein (hPrtl) and Human
TITLE OF INVENTION: eIF4GF-like Protein (p97) Genes
FILE REFERENCE: 1488.0700001
CURRENT APPLICATION NUMBER: US/08/990,140A
CURRENT FILING DATE: 1997-12-12
EARLIER APPLICATION UMBER: US 60/033,151
EARLIER FILING DATE: 1996-12-13
NUMBER OF SEQ ID NOS: 13
                                                                                                                                                                                                                                                                                             APPLICANT: Olsen, Henrik S. APPLICANT: Ruben, Steven M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
APPLICANT: Gerritse, Gijsbert
APPLICANT: Quax, Wilhelmus J.
TITLE OF INVENTION: EXPRESSION
TITLE OF INVENTION: EXPRESSION
                                                                                                                                                                                                                                                                                APPLICANT:
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SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: US/09/479,453
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NAME: Glaister, Debra J
REGISTRATION NUMBER: 33,
REFERENCE/DOCKET NUMBER:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            15
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CITY: Palo Alto
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3. 6093795
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                Homo sapiens
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Methot, Nathalie
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45.8%;
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Pred.
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US-08-444-231-19
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; ORGANISM: Homo sapiens
US-09-546-238-2
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US-09-546-238-2
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SEQ ID NO 2
LENGTH: 873
                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 19, Application US/08444231 Patent No. 5652210
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                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: BARR, PHILIP J.
APPLICANT: SHAPIRO, JOHN P.
APPLICANT: KIEFER, MICHAEL C.
TITLE OF INVENTION: NOVEL FACTITLE OF INVENTION: THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/546,238
CURRENT FILLING DATE: 2000-04-10
PRIOR APPLICATION NUMBER: US 60/033,151
PRIOR FILING DATE: 1996-12-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Human Prt1-like Subunit Protein (hPrt1) Polynucleotides
TITLE OF INVENTION: (as amended)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                  SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362 GEKFKQIQRFSHQGVQLIDFSPCERYL 388 .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 44.4%;
nes 12; Conservation
FILING DATE: 1
CLASSIFICATION:
                                                                                                                                                                                            CITY: Palo Alto
STATE: Californ:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 44.4%; es 12; Conservation
                                   APPLICATION NUMBER: US/08/444,231
                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                           STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 GEREGSSSQQCRQEVQRKDLSSCERYL 30
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                                                                                                                                                                                          California
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Methot, Nathalie
                                                                                                                                                                                                                           755 Page Mill Road
                                                                                                                                                                        USA
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1488.0700002
                   18-MAY-1995
                                                                                                                                                                                                                                                                                                              NOVEL FAS PROTEIN AND METHODS OF USE
                                                                                                                                                                                                                                                                               22
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Pred. No. 1e+02;
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Pred. No. 1e+02;
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                                                                      Version #1.30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 26.1%; Score 48.5; Best Local Similarity 26.9%; Pred. No. 39; Matches 7; Conservative 14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 19,
                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (415) 494-0792
TELEX: 706141
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 314 amino acids
                                                                                       INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: BARR, PHILIP J.

APPLICANT: SHAPINO, JOHNE P.

APPLICANT: KIEBER, MICHAEL C.

TITLE OF INVENTION: NOVEL FAS PROTEIN AND METHODS

TITLE OF INVENTION: THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 23
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 813-5600
TELEPAX: (415) 494-0792
                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 314 amino acids
                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
                                                                                            TELEFAX: (-- 706141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160 TSNTKCKEEVKRKEVQKTCRKHRKEN 185
                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 755 Page 1
CITY: Palo Alto
STATE: California
                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC OPERATING SYSTEM:
                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: LEHNHARDT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9, Application US/08152443A 5663070
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                                         amino acid
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                                                                                                                    (415) 494-0792
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                                                                                                                                                                                                                                                                                                   E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                              linear
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                                                                                                                                                                   23647-20006.00
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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/08942423
Patent No. 5891673
GENERAL INFORMATION:
APPLICANT: Hashimoto, Yasuhiro
APPLICANT: Takemoto, Yoshihiro
TITLE OF INVENTION: Lck Binding Protein
NUMBER OF SEQUENCES: 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity Matches 7; Conserv
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APPLICATION NUMBER: US 08/362,715
FILING DATE: 23-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: Peries, Rohan
REGISTRATION NUMBER: 35,752
REFERENCE/DOCKET NUMBER: 28260
                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
COMPUTER: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 16
CURRENT APPLICATION DATA:
APPLICATION UNMBER: PCT/US95/17083
FILING DATE: CONCURRENTLY HEREWITH
                                                                                                 CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: USSN
FILING DATE: 23-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160 TSNTKCKEEVKRKEVQKTCRKHRKEN 185
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                                                                                                                                       FILING DATE:
                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                            ZIP: 94303
                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                              CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
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3401 Hillview Ave.
                                                                                                                                                                                                                                                                                          U.S.A.
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                                                                                                                                       01-OCT-1997
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26.9%;
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Pred. No. 39
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; ORIGINAL SOURCE:
; ORGANISM: HS1
US-08-942-423-2
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GENERAL INFORMATION:
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Best Local Similarity
Matches 11; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (415) 852-1698
TELEFAX: (415) 496-3529
INFORMATION FOR SEQ ID NO: 2:
                                                                                                            TELEFAX: (212) 869-886
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/
FILING DATE: 03-APR-1996
CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
                                                                                                                                                                          REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 110
TELECOMMUNICATION INFORMATION: 7070,7070
                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 486 amino acids
                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION:
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                MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: FOWLKES, DAPPLICANT: MCCONNELL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
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                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: New York
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STRANDEDNESS: not
TOPOLOGY: linear
                                                STRANDEDNESS
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                                                                                                                                                                                                                                                                                                                                                                                                                              RY: USA
10036-2711
                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08630915A
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FOWLKES, Dana M.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : protein
NO
                                                                                                                                                                   (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pennie & Edmonds LLP
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              peptide
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Best Local S
Matches 10
                                                                Sequence 94, Application US/08800644 Patent No. 5958752 GENERAL INFORMATION:
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Patent No. 5616500
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Best Local Similarity 34.4
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (714) 760-0404
TELEPAX: (714) 760-9502
INFORMATION FOR SEQ ID NO: 94:
SEQUENCE CHARACTERISTICS:
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                                  APPLICANT:
APPLICANT:
                                                                                                                                                                               1677 ERKFREEEQLRQETEQEQLRRQERY 1701
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (714) 760-0404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Fedrick, Michael F.
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MEDIUM TYPE: Floppy disk
                  APPLICANT:
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CORRESPONDENCE ADDRESS:
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APPLICANT: Park, Sang-Chul
TITLE OF INVENTION: Trichohyalin and Transglutaminase-3 and
TITLE OF INVENTION: Mehods of Using Same
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Lee, Seung-Chul
APPLICANT: Kim, In-Gyu
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    APPLICANT:
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mes 10; Conserv
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REFERENCE/DOCKET NUMBER: NIH054.001A
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Lee, Seung-Chul
Kim, In-Gyu
Chung, Soo-Il
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Pred. No. 3.4e+02;
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Pred. No. 73;
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Search completed: September
Job time: 234 sec
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Best Local Similarity 40.0%;
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/800,644
FILING DATE: 14-FEB-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/056,200
FILING DATE: 30-APR-1993
ATTORNEY/AGENT INFORMATION:
NAME: Fedick, Michael F.
REGISTRATION NUMBER: 36,799
REGISTRATION NUMBER: 36,799
                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (714) 760-9502 INFORMATION FOR SEQ ID NO:
                                                                                                      1677 ERKFREEEQLRQETEQEQLRRQERY 1701
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 1898 amino aci
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/800,644
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TITLE OF INVENTION: Trichohyalin and Transglutaminase-3 and
TITLE OF INVENTION: Mehods of Using Same
NUMBER OF SEQUENCES: 117
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STATE: CA
                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
TOPOLOGY: linear
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STREET: 620 Newport Center Drive, Sixteenth Floor
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Pred. No.
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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RL37_SCHMA
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IF39_HUMAN
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                                                                                                                                                                                                                                                                                                                         Spikes D.A., Kramer J., Bingham P.M., van Doren K.;

"SWAP pre-mRNA splicing regulators are a novel, ancient pr
family sharing a highly conserved sequence motif with the
family of constitutive splicing proteins.";

Nucleic Acids Res. 22:4510-4519(1994).

1- FUNCTION: IT IS A REGULATOR OF PRE-MRNA SPLICING (AND,
OF OTHER RNA PROCESSING EYEMTS). IT MAY REGULATE ITS O
EXPRESSION AT THE LEVEL OF RNA PROCESSING.

1- SIMILARITY: TO DROSOPHILA SUWA.
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Rhabditidae; Peloderinae;
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01-OCT-1996
                                   Pfam; PF01805;
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InterPro; IPR001768; Cereal_try;
Pfam; PF00234; tryp_alpha_amyl;
SMART; SM00499; AAI; 2.
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PIR; S11500; S11500.
PIR; S11501; S11501.
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37; Conserv
                                                   IPR000061; Surp.
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(Rel. 34, Last sequence update)

(Rel. 34, Last annotation update)

n (Suppressor of white apricot protein homolog).
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       regulation; RNA-binding; mRNA splicing; Repeat.
                                                                             AAA64937.1; -. AAA64938.1; -.
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                                                                                                                                             "The amino-acid sequence of the 2s sulphur-rich of Brazil nut (Berthollettia excelsa H.B.K.).";
Eur. J. Biochem. 159:597-604(1986).
-i- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-i- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SM
LINKED BY DISULFIDE BONDS.
-i- SIMILARITY: BELONGS TO THE 2S SEED STORAGE A
           EMBL;
                                                                                                                                                                                                                                                                                   Carneiro M., Grossi de Sa M.F.;
"Isolation, characterization and expression of a gene coding for
"Isolation and expression of a gene coding for
albumin from Bertholletia excelsa (Brazil nut).";
plant Mol. Biol. 16:437-448(1991).
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P04403; P04402;
20-MAR-1987 (Rel. 04, Created)
01-OCT-1989 (Rel. 12, Last sequence up
16-OCT-2001 (Rel. 40, Last annotation
2S_sulfur-rich_seed storage protein pr
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MEDLINE=87004679; PubMed=3758080;
Ampe C., van Damme J., de Castro L.A.B.,
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                                                                        use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
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Carneiro M., Grossi de Sa M.F.;
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eu
Asteridae; Ericales; Lecythidaceae; Bertholletia.
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2 X REPEATS
                                                                                                                                               2S SEED STORAGE ALBUMINS FAMILY
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                                                           moved. Usage by and for commercial
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RESULT
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CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                            protein in sunflower.";
MOI. Gen. Genet. 210:211-218(1987).
MOI. Gen. Genet. 210:211-218(1987).
-!- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-!- PTW. IT IS POSSIBLE THAT THE 38 kDa PRECURSOR IS CLEAVED INTO POLYPEPTIDES THAT ARE APPROXIMATELY THE SAME SIZE. THE MATURE PROTEIN IS COMPOSED OF A SINGLE POLYPEPTIDE CONTAINING ONE OR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-APR-1990 (Rel.
01-APR-1990 (Rel.
01-OCT-1994 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2SS5_HELAN
P15461;
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PIR;
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"Sequence and expression of a gene encoding an albuming of the control of t
                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A., AND SEQUENCE STRAIN=CV. GIANT GREY STRIPE;
MEDLINE=88142538; PubMed=830455;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Helianthus annuus (Common Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
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SMART; SM00499; AAI; 1.
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EMBL; X54491; CAA38363.1;
EMBL; A13818; CAA01131.1;
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                   European Bioinformatics Institute. The by non-profit institutions as long
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$25802;
$25802;
$14946;
$14479;
$21640;
                                                                                                            SIMILARITY: BELONGS TO THE 2S SEED
                                                                                                                               INTRA-MOLECULAR DISULFIDE LINKAGES.
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                                                   SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation -
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in precursor (2S album
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Pred. No. 0.43;
8; Mismatches
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S -> E (IN VARIANT 1A)
EE -> QQ (IN REF. 4).
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SEQUENCE
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01-OCT-1996 (Rel.
15-DEC-1998 (Rel.
                                    Pfam; PF00234; tryp_alpha_amyl; SMART; SM00499; AAI; 1.
                                                                                                                           EMBL; X69912; CAA49537.1; -. HSSP; P07597; 1LIP.
                                                                                                                                                                                                                                      use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                               This
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gluten proteins, pp.314-325, American a st. Paul Mi (1991).
-I- FUNCTION: ACTS AS A MEMBRANOTOXIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Triticum aestivum (Wheat).
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InterPro; IPR003618; Cereal_tryp_amyl_inh.
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                                                                                                                                                                                                                                                                                                            between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 30-148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gautier M.-F., Aleman M.-F., Guira "Triticum aestivum puroindolines, proteins: cDNA sequence analysis a plant Mol. Biol. 25:43-57(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-CV.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=4565;
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InterPro; IPR001768; Cereal_tryp_amyl_inh.
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(In) Bushuk W., Tkachuk
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                                                                                                                                                                                                                                                                                 European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                     ANTIBACTERIAL AND ANTIFUNGAL ACTIVITIES, DEFENSE MECHANISM OF THE PLANT AGAINST P. PTM: FIVE DISULFIDE BONDS ARE PRESENT.
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                                                                                                                                                                                                                                                                                                            SWISS-PROT. entry is copyright. It is produced through a collaboration -
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                                                                                                                                                                                             an email to license@isb-sib.ch).
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295 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kaboulou A., Compoint J.P.,
., Tkachuk R. (eds.);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      34,
37,
                                                                                                                                                                                                                      a license agreement (See http://www.isb-sib.ch/announce/
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295 2
34071 MW;
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36.0%;
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3; Mismatches
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, two basic cystine-rich seed
and developmental gene expression.";
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Membrane;

Antibiotic;

POTENTIAL

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GLTO_WHEAT
ID GLTO_W
AC P10387
DT 01-MAR
DT 15-JUL
DE Gluten
GN GLU-D1
OS Tritic
OC Eukary
OC Sperma
OC Tritic
OX NCBI_T
RN [1]
RP SEQUEN
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Best Local Similarity
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Best Local 9
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                                                      P10387;
P10387;
Ol-MAR-1989 (Rel. 10, Creace, Ol-MAR-1989 (Rel. 10, Last sequence update, Ol-MAR-1999 (Rel. 38, Last annotation update)
Glutenin, high molecular weight subunit DY10
                                                                                                                                                                                                                                                                                                                                                                                                                                 Spermatophyta; Magnoliophyta; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidieurosids I; Fabales; Fabaceae; Papillonoideae; Genietans NCBI_TaxID=3871;
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SEQUENCE
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CHAIN
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SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                   FEBS Lett. 195:235-241(1986).
-!- SUBUNIT: DIMER OF A SMALL CHAIN AND A LARGE CHAIN LINKED
                                                                                                                                                                                                                                                                                                                                                                      of Lupinus angustifolius L. Sequence amylase inhibitor from wheat.";
               NCBI_TaxID=4565; [1]
                                         Spermatophyta; Magnoliophyta;
                                                   Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                          DOMAIN
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Lilley G.G
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                                                  Streptophyta; Embryophyta; Tracheophyta;
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GLU/GLN-RICH.
89784D55A5A1493A CRC64;
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Pred. No. 1.2;
3; Mismatches
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Pred. No. 0.52;
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                                        Liliopsida; Poales;
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                                           Poaceae; Pooideae;
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C-18 OF LARGE
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Best Local (
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GLT3_WHEAT
P08488;
01-AUG-1988
01-AUG-1988
15-JUL-1999
                                                                                                                                                                                                                                                                                                              01-AUG-1988 (Rel. 08, Created)
01-AUG-1988 (Rel. 08, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Glutenin, high molecular weight subunit 12 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.isb-or send an email to license@isb-sib.ch).
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-!- FUNCTION: GLUTENINS ARE THE HIGH MOLECULAR VERNOUS OF WHEAT ENDOSPERM. THOUGHT TO BE RIVISCO-ELASTIC PROPERTY OF WHEAT DOUGH.

-!- SUBUNIT: DISULFIDE-ERIDGE LINKED AGGREGATES.
"Nucleotide sequence of a gene from cl
HMM-glutenin subunit.";
Nucleic Acids Res. 13:6833-6846(1985)
-!- FUNCTION: GLUTENINS ARE THE HIGH PROTEIN OF WHEAT ENDOSPERM. THOUGH
                                                                                                                                                                                                                                                                    Triticum aestivum (Wheat).
Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR001419; Glutenin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00210; GLUTENIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X12929; CAA31396.1; PIR; S04832; S04832. HSSP; P01088; 1BFA.
                                                                                                                         STRAIN=CV. CHINESE SPRING;
MEDLINE=86041882; PubMed=3840588;
                                                                                                                                                                                                                             Spermatophyta; Magnoliophyta; Triticeae; Triticum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                        Thompson R.D., Bartels D.,
                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                          NCBI_TaxID=4565;
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MEDLINE=89098419; PubMed=2563152;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EN European Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MISCELLANEOUS: THE MATURE PROTEIN IS NUMBER OF WELL PRESERVED REPEATS OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MISCELLANEOUS: GLUTENINS ARE CODED BY SEVERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GROUP 1 CHROMOSOMES OF WHEAT
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<sub>/</sub>ta; Liliopsida; Poales; Poaceae; Pooidea
                                                                                                          Harberd N.P.;
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Pred. No.
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DY10.
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Q93075;
Q1-NOV-1997
                                                                                                                                                            MEDLINE-97191544; pubMed-9039502;
MEDLINE-97191544; pubMed-9039502;
Nagase T., Seki N., Ishikawa K.-I., Ohira M., Kawarabayasi Nagase T., Seki N., Ishikawa K.-I., Ohira M., Nomura N.;
"Prediction of the coding sequences of unidentified human processing sequences of 80 new genes (KIAA0201-KTAA0280) analysis of cDNA clones from cell line KG-1 and brain.";
DNA Res. 3:321-329(1996).
the European remail to license@isb-sib.ch).

Usage by anu removed. Usage by anu removed modified and this statement is not removed. Usage by anu removed modified and this statement is not removed. Usage by anu removed modified and this statement is not removed. Usage by anu removed an email to license@isb-sib.ch).
                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
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PIR; A24266; A24266.
HSSP; P01088; 1BFA.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR001419; Glutenin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00210; GLUTENIN.
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SUBBURIT: DISCLETIBE-BRIDGE LINKED AGGREGATES.
MISCELLANGOUS: GLUTENINS ARE CODED BY SEVERAL GENES ON EACH OF GROUP 1 CHOMOSOMES OF WHEAT.
MISCELLANEOUS: THE MATURE PROTEIN IS CHARACTERIZED BY A LARGE MUMBER OF WELL PRESERVED REPEATS OF THE TWO MOTIFS: GQQPGQ AND
                                                                                                                                                    SIMILARITY: BELONGS TO THE TATD DNASE FAMILY.
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DE Mabin)
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01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Mabinlin IV, A and B chains (MAB IV) (Sweet protein).
Capparis masaikai (Mabinlang).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosidenta (Mabinlang).
Eurosids II; Brassicales; Brassicaceae; Capparis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94333405; PubMed=8055976; Nishawa S., Nishino T., Katahira M., Uesugi S., Hu Z., Ku Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z., Ku "Structures of heat-stable and unstable homologues of the protein mabinlin. The difference in the heat stability is replacement of a single amino acid residue."; Eur. J. Biochem. 23:3989-995(1994).
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pfam; pr01026; TatD_Nase; 1.

pROSITE; pS01137; TATP_1; 1.

pROSITE; pS01090; TATP_2; 1.

PROSITE; pS01091; TATP_3; FALSE_NEG.

PROSITE; pS01091; TATP_3; FALSE_NEG.

Hypothetical protein; Hydrolase; Nuclease.

SEQUENCE 761 AA; 85038 MW; 7B0504F8D262CA8E CRC64;
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RESULT

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RESULT 12
GLT4 WHEAT
ID GLT44 W
AC P08489
AC P08489
DT 01-AUG
DT 15-JUL
DE Gluten
OS Tritic
OC Eukary
OC Eukary
OC Sperma
OC Tritic
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RN [1]
RP SEQUEN
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P80352;
01-FEB-1995
                                                                                                                                          GLT4_WHEAT STANDARD; PRT; 838 AA. P08489; 01-AUG-1988 (Rel. 08, Created) 01-AUG-1988 (Rel. 08, Last sequence update) 15-JUL-1999 (Rel. 38, Last annotation update) Glutenin, high molecular weight subunit PW212
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Nucleic Acids
                 structure.";
                       SEQUENCE FROM N.A.
STRAIN-CV. YAMHILL;
MEDLINE-86093674; PubMed-3001648;
Sugiyama T., Rafalski A., Peterso
"A wheat HMW glutenin subunit gen
                                                                                                  Spermatophyta; Magnoliophyta; Triticeae; Triticum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eleurosids II; Brassicales: Brassicales
                                                                                                                       Triticum aestivum (Wheat).
Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ProDom; PD002498; Napin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Structures of heat-stable and unstable homologues of the protein mabinin. The difference in the heat stability replacement of a single amino acid residue.";
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                                                                                        NCBI_TaxID=4565;
                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                             NON_CONS
                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PRO0496; NAPIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF01631; Seedstore_2S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- SIMILARITY:
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InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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FUNCTION: HEAT STABLE 2S SEED STORAGE PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFIDE BONDS
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33
43
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      13:8729-8737(1985)
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                        Peterson
unit gene
                                                                                                            Streptophyta; Emyta; Liliopsida;
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Pred. No. 3;
8; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                   MABINLIN III,
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A LOCAL CASE OF THE STREET CONTROL OF THE ST
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GLT5_WHEAT
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Best Local
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                Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases
-!- FUNCTION: GLUTENINS ARE THE HIGH MOLECULAR WEIGHT S:
PROTEIN OF WHEAT ENDOSPERM: THOUGHT TO BE RESPONSIB
VISCO-ELASTIC PROPERTY OF WHEAT DOUGH.
-!- SUBUNIT: DISULFIDE-BRIDGE LINKED AGGREGATES.
                                                                                                                                                                                Nucleic [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P10388;
01-MAR-1989 (Rel. 10, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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between
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN=CV. CHEYENNE;
MEDLINE=89098419; PubMed=2563152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GLU-1D-1D OR GLU-D1-1B.
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Eukaryota; Viridiplantae;
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InterPro; IPR001419; Glutenin.
PRINTS; PR00210; GLUTENIN.
                                                                                                                     Anderson
                                                                                                                       STRAIN=CV. CHE
Anderson O.D.;
                                                                                                                                                                                                                        Cheyenne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P10388
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                                                                                                                                                         REVISIONS, SEQUENCE
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Chevenne.":
                                                                                                                                                                                                                                                                                 Anderson O.D., Greene Malpica-Romero J.M.;
                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=4565;
                                                                                                                                                                                                                                                                                                                                                                                                                             Spermatophyta; Magnoliophyta; Triticeae; Triticum.
                                                                                                                                                                                                                                                                  Nucleotide
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SUBUNIT: DISULFIDE-BRIDGE LINKED AGGREGATES.
SUBUNIT: DISULFIDE-BRIDGE LINKED AGGREGATES.
MISCELLANEOUS: GLUTERINS ARE CODED BY SEVERAL GENES ON EACH OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GROUP 1 CHROMOSOMES OF WHEAT.
MISCELLANEOUS: THE MATURE PROTEIN IS
NUMBER OF WELL PRESERVED REPEATS OF
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yenome of a
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GLUTENINS ARE CODED
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89174
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35.5%;
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                                                                                                                                                                                                                                           of the two hexaploid
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yta; Liliopsida; Poales;
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                                                                                                                                                                                                                                                                                                   Yip R.E.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HIGH
  BY SEVERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                Embryophyta; Tracheophyta;
a; Poales; Poaceae; Pooidea
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
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                                                            BE RESPONSIBLE
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GQQPGQ AND
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  ON EACH OF
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RESULT 14
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                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                       J. Bacteriol. 175:3710-3722(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Favre D., Ngai P.K., Timmis K.N.;

"Relatedness of a periplasmic, broad-specificity RNase from Aeromonas hydrophila to RNase I of Escherichia coli and to a family of eukaryotic RNases."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ribonuclease precursor (EC Aeromonas hydrophila. Bacteria; Proteobacteria;
                                                               the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
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16-OCT-2001 (Rel.
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01-OCT-1994
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                                                                                                                                                                                                          SÜBCELLULAR LOCATION: PERIPLASMIC AND CYTOPLASMIC. AN RIFORM (PERIPLASMIC) AND RNASE I*-LIKE FORM (CYTOPLASMIC) BE ISOFORMS APPARENTLY ENCODED BY THE SAME GENE. THE CYTORM IS LESS ACTIVE TOWARDS NATURAL POLYMER RNA. PTM: FOUR DISULFIDE BONDS ARE PRESENT (BY SIMILARITY). SIMILARITY: BELONGS TO THE RNASE T2 FAMILY.
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                                                                                                                                SWISS-PROT entry is copyright. It is produced through a collaboration en the Swiss Institute of Bioinformatics and the EMBL outstation
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PR00210; GLUTENIN.
                                             requires a
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                    equires a license agreement (See http://www.isb-sib.ch/announce/email to license@isb-sib.ch).
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Pred. No. 25;
7; Mismatches
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RESULT 15
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PROSITE; PS
Hydrolase;
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                                                                                                           Glutathione biosynthesis; SEQUENCE 518 AA; 60979
                                                                                                                                                      EMBL; AP001119; BAB13108.1; -.
                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=TOKYO 1998;
MEDLINE=20445173;
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Bacteria; Proteobacteria;
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16-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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22 POTENTIAL.
215 RIBONUCLEASE.
62 BY SIMILARITY.
102 BY SIMILARITY.
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1, Last annotation update)
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Pred. No. 7.3;
7; Mismatches
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Search completed: September 9, 2002, 12:46:06 Job time: 308 sec

GenCore version 4.5 Copyright (c) 1993 - 2000 Comp

Compugen Ltd

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Result
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3: sp_fungi:*
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sp_plant:*
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sp_bacteria:*
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                                                                                                                                                                                                                                                                                                                                                                             sp_human:*
                                                                                                                                                                                                             by analysis of the total score distribution.
                                                                                                                                                                                                                                                                    sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
                                                                                                                                                                                                                                                  sp_bacteriap:*
sp_archeap:*
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Q9AUD1
Q39649
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O95874 ricinus com
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O17484 caenorhabdi
O91rc2 bertholleti
O91rc2 bertholleti
O9sgh1 arachis hyp
O9au64 elaeis guin
O9jgs8 tt virus p
P93198 juglans reg
O9exv9 salmonella
O9jgs5 tt virus p
O94110 secale cere
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Q94ij6 triticum ae	Q93wm1 secale cere	-	Q94ill secale cere	Q9sdm2 triticum ae	Q94il6 secale cere	triticum	Q93xr5 aegilops cy	Q38767 aegilops ta	\circ	aegilop	Q941r0 arachis hyp	Q9m4d9 triticum mo	Q9jgs2 tt virus. p	rod	hordeum	hordeum	hordeum	hordeum	hordeum	Q9le34 hordeum vul	۵	Q9zu69 arabidopsis		5	triticu	secale ce	Q9sdm3 triticum ae	Q93wf0 secale cere

ALIGNMENTS

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RESULT
Q9AUD1
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Q9S874
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Matches 37
Q9AUD1 PRELIMINARY; PRT;
Q9AUD1;
01-JUN-2001 (TrEMBLrel. 17, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9S874 PRELIMINARY; PRT; 41 AA. Q9S874; 01-MAY-2000 (TrEMBLrel. 13, Created) 01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-JUN-2000 (TrEMBLrel. 14, Last annotation update) 4.7 KDA NAPIN-LIKE PROTEIN SMALL CHAIN (FRAGMENT).
                                                                                                                                                                                                                                                                                  MEDLINE=97135090; PubMed=8980648; Neumann G.M., Condron R., Polya G.M.; Neumann G.M., Condron R., Polya G.M.; Purification and sequencing of napin-like protein small and large chains from Momordica charantia and Ricinus communis seeds and determination of sites phosphorylated by plant Ca(2+)-dependent
                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eu eurosids I; Malpighiales; Euphorbiaceae; Ricinus. NCBI_TaxID=3988;
                                                                                                                                                                                                                                         protein kinase.";
Biochim. Biophys.
SEQUENCE 41 AA;
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ricinus communis (Castor bean).
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                                                                                                                         1 ESKGEREGSSSQQCRQEVQRKDLSSCERYLRQSSSRR
                                                                                                                                                                                Similarity
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4732 MW; 201FF2938F333173 CRC64;
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100.0%; F
tive 0;
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Pred. No. 6.3e-19;
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eudicots; Rosidae;
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PRINTS; PR00496; NAPIN.
SMART; SM00499; AAI; 1.
SEQUENCE 153 AA; 17504 MW; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-2001 (TrEMBLrel. 17, Last of 01-DEC-2001 (TrEMBLrel. 19, Last of 2S ALBUMIN.
Sesamum indicum (Oriental sesame)
Eukaryota; Viridiplantae; Strepto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1996 (TIEMBLIEL 01, 01-NOV-1996 (TIEMBLIEL 01, 01-DEC-2001 (TIEMBLIEL 19, PREPRO2S ALBUMIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Molecular cloning of three Submitted (MAR-2000) to the EMBL; AF240005; AAK15088.1; HSSP; P01085; 1HSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Asteridae; euasterids I; Lamiales; Pedaliaceae; Sesamum.
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InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR000480; Glutelin.
InterPro; IPR000617; Napin.
                                                                           SMART;
                                                                                                    InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR000171; Napin.
InterPro; IPR00031; tryp_alpha_amyl; 1.
ProDom; PD002498; Napin; 1.
                                                                                                                                                                                                                                                                                                               pumpkin.";
Plant J. 4:793-800(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-COTYLEDON;
MEDLINE-94100993; PubMed-8275099;
Hara-Nishimura I., Takeuchi Y., I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "A unique vacuolar processing enzyme responsible for conversion several proprotein precursors into the mature forms."; FEBS Lett. 294:89-93(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           several
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=COTYLEDON;
MEDLINE=92077151; PubMed=1743299;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q39649;
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                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                "Vesicle transport and processing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hara-Nishimura I., Inoue K., Nishimura M.;
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                                                                                                                                                                                                                                                                               D16560; BAA03993.1; -.
                                                                           SM00499;
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Q17484;
Q1-NOV-1996
01-JUN-2001
01-JUN-2001
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Q39928;
Q1-NOV-1996
Q1-NOV-1996
Q1-DEC-2001
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SEQUENCE
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TISSUE-FLOWERING SEED;
Thoyts P.J.E., Millichip M., Stobart A.K., Griffiths W.T.,
Napier J.A., Shewry P.R.;
Submitted (NOV-1993) to the EMBL/GenBank/DDBJ databases.
EMBL; X76101; CAA53710.1;
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                                  Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Helianthus annuus (Common sunflower).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheop
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids II; Asterales; Asteraceae; Asteroideae;
                                             Caenorhabditis elegans
Eukaryota; Metazoa; Ner
Rhabditidae; Peloderina
                                                                                                                                                                                                                                                                                                                             PRINTS;
STRAIN-BRISTOL N2;
MEDLINE-99069613;
                                                                          в0336.9
                                                                                   B0336.9 PROTEIN.
                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                           SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Heliantheae;
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                  SEQUENCE FROM N.A
                                    NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                        Pfam; PF00234; tryp_alpha_amyl; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=4232;
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16; Conser
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SM00499; AAI; 2.
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48.5%;
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Last sequence update)
Last annotation updat
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Q9LRC2;
Q1-CCT-2000 (TrEMBLrel. 15, Created)
Q1-CCT-2000 (TrEMBLrel. 15, Last sequence update)
Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Q2 ALBUMIN.
Bertholletla excelsa (Brazil nut).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheo Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; Ericales; Lecythidaceae; Bertholletia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Brazil nut 2S albumin was synthesized in a transgenic French bean seed with a promoter of the gene for canavalin, 7S globulin from Canavalia gladiata.";
Submitted (JUN-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AB044391; BAA96554.1;
-...
HSSP; P01087; IBIU.
                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00808; AMLASEINHBTR.
PRINTS; PR00496; NAPIN.
                                                                                                                                                                                                                                                                                                       SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "The sequence of C. Submitted (JUL-1995)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR003612; AAI.
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46.2%;
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Pred. No. 2.1;
4; Mismatches
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EMBL/GenBank/DDBJ
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Kleber-Janke T., Crameri R., Appenzeller U., Schlaak
"Selective cloning of peanut allergens, including pr
albumins, by phage display technology.";
Int. Arch. Allergy Immunol. 119:265-274(1999).
EMBL; AR09173; AAD56719.1;
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; pr00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI.
                                                     embryos of oil palm.";
Submitted (MAR-2000) to the EMBL EMBL; ARZ50228; AAKZ8402.1; -.
HSSP; P02853; 2PHL.
InterPro; IPRO01113; Seedstore_7; InterPro201646; Seedstore_7s; 1.
Pfam; PF02808; Seedstore_7sc; 1.
SEQUENCE 572 AA; 66364 MW; 6
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01-JUN-2001 (
01-DEC-2001 (
75 GLOBULIN.
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Q9SQH1;
Q1-MAY-2000
Q1-MAY-2000
Q1-DEC-2001
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Q9AU64;
                                                                                                                                          SEQUENCE FROM N.A.
Morcillo F., Hartmann C., I
"Regulation of 7S globulin
                                                                                                                                                                                                Elaeis guineensis var. tenera (Oil palm).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; Lilliopsida; Arecaceae;
Cocoeae; Elaeidinae; Elaeis.
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Eukaryota; Viridiplantae;
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          Score 61;
Pred. No.
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Best Local S
Matches 15
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Best Local Similarity
Matches 11; Conserv
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01-DEC-2001 (TrEMBLrel. 1
PORFI.
TT virus.
Viruses; ssDNA viruses; u
                                                                                                                                                                                NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                    Teuber S.S., Dandekar A.M., Peterson W.R.;
"Juglans regia 2S albumin seed storage protein precursor.";
Submitted (AUG-1996) to the EMBL/GenBank/DDBJ databases.
EMBL; U66866; AAM41308.1;
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000480; Glutelin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P93198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Juglans regia (English walnut).

Eukaryota; Viridiplantae; Streptophyta; Embryo
Spermatophyta; Magnoliophyta; eudicotyledons;
eurosids I; Fagales; Juglandaceae; Juglans.

NCBI_TaxID=51240;
                                                                                                                                                                                                                     Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00211; GLUTELIN.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. STRAIN=CV. SUNLAND;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-1997 (TrEMBLrel. 03, Created)
01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
ALBUMIN SEED STORAGE PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arch. Virol. 145:1385-1398(2000).
EMBL; AB030487; BAA90406.1; -.
InterPro; IPR004219; TT_ORF1.
Pfam; PF02956; TT_ORF1; 1.
SEQUENCE 765 AA; 90225 MW; E8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tanaka Y., Orito E., Ohno T., Nakan Mukaide M., Iida S., Mizokami M.; "Identification of a 23kDa protein frame 2 of TT virus (TTV) genotype
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. PubMed=10963344;
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01-OCT-2000
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14 CRQEVQR-KDLSSCERYLRQSS
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50.0%;
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Pred.
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                                                                                                        Length 139;
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Query Match
Best Local S
Matches 14
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Best Local :
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Microbiology 147:599-610(2001).
EMBL; AY012201; AAG41707.1; -
InterPro; IPR001538; MannoseP_isomer.
InterPro; IPR001825; MTP_transferase.
Pfam; PF01050; MannoseP_isomer; 1.
Pfam; PF01483; MTP_transferase; 1.
Pfam; PF00483; MTP_transferase; 1.
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Q9JGS5;
01-OCT-2000
01-OCT-2000
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Viruses; s
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SEQUENCE
                                                                                                                        genotypes.";
Arch. Virol. 145:1385-1398(2000).
EMBL; AB030488; BAA90409.1;
Interpro; IPR004219; TT_ORF1.
Pfam; PF02956; TT_ORF1; 1.
                                                                                                                                                                                                                             Tanaka Y., Orito E., Ohno T., Nakan
Mukaide M., Iida S., Mizokami M.;
"Identification of a 23kDa protein
frame 2 of TT virus (TTV) genotype
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9EXV9;
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01-DEC-2001
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l Similarity 43.8
14; Conservative
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ilarity 38.7%;
Conservative
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                   31.7%;
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16, Last sequence up
19, Last annotation
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19,
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9; Mismatches
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Last annotation updat
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                                                                                                                                                                                                                                                                                                 Nakano
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                                                                                                         707029EB45829B5F CRC64;
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                     59;
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Q941J9;
01-DEC-2001
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01-DEC-2001
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Q94ILO;
Q1-DEC-2001 (TrembLrel. 19, Created)
01-DEC-2001 (TrembLrel. 19, Last sequence update)
01-DEC-2001 (TrembLrel. 19, Last annotation update)
HIGH MOLECULAR WEIGHT GLUTENIN SUBUNIT X PRECURSOR.
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"Characterization of two gene subunits on the IR chromosome orthologs of each of the Glu-1 genes of hexaploid wheat.";

submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AJ314772; CAC40684.1; -.
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      de Bustos A., Rubi
"Characterization
orthologs of each
                                                                                                                                                                       de Bustos A., Jouve N.; de Bustos A., Jouve N.; "Characterization and analysis of new subunits-like wheat encoded by Glu-IR gene of Secale cereale."; Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
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01-DEC-2001 (TrembLrel. 19, Last sequence update)
01-DEC-2001 (TrembLrel. 19, Last annotation update)
HIGH MOLECULAR WEIGHT GLUTENIN SUBUNIT X PRECURSOR.
                                                                     SEQUENCE FROM N.A. de Bustos A., Rubio
                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                    Triticeae;
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"Characterization of two gene subunits on the orthologs of each of the Glu-1 genes of hexapl submitted (MAY-2001) to the EMBL/GenBank/DDBJ EMBL; AJ314773; CAC40674.1; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                   de Bustos A., Jouve N.;
"Characterization and analysis of new subunits-like encoded by Glu-IR gene of Secale cereale.";
Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databa
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01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
HIGH MOLECULAR WEIGHT GLUTENIN SUBUNIT X PRECURSOR.
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A; Residues: 157-190;194-221,'Q',223-225,230-233,'N',235-254,'Q',256-258 <SHA>
A; Residues: 157-190;194-221,'Q',223-225,230-233,'N',235-254,'Q',256-258 <SHA>
A; Note: there is considerable similarity between residues 181-231 of this protein R; Odani, S.; Koide, T.; Ono, T.; Ohnishi, K.
Blochem. J. 213, 543-545, 1983
A; Title: Structural relationship between barley (Hordeum vulgare) trypsin inhibito A; Reference number: A90322; MUID: 83308577
A; Contents: annotation A;Accession: S27221
A;Mccession: S77221
A;Mcsidues: 'X',37',X',39-45;'X',158-161,'X',163-174,'X' <TRA>
A;Residues: 'X',37',X',39-45;'X',158-161,'X',163-174,'X' <TRA>
R;Sharief, F.S.; Li, S.S.L.
J. Biol. Chem. 257, 14753-14759, 1982
J. Biol. Chem. 257, 14753-14759, 1982
A;Title: Amino acid sequence of small and large subunits of seed storage protein from A;Reference number: A92357; MUID:83082772
A;Accession: A01328 A; ACCESSANT RNA
A; Molecule type: mRNA
A; Residues: 'SFAIVTVF', 15-73, 'T', 75-258 <IR3> A; Note: this protein is homologous with trypsin inhibitor C; Complex: consists of two chains linked by two disulfide C; Superfamily: 2S seed storage protein precursor A;Cross-references: EMBL:X54158; NID:g21067; PIDN:CAA38097.1; PID:g21068
A;Note: the authors translated the codon CTC for residue 14 as Phe, CCA for residu R;Irwin, S.D.; Keen, J.N.; Findlay, J.B.C.; Lord, J.M.
Mol. Gen. Genet. 222, 400-408, 1990
A;Title: The Ricinus communis 28 albumin precursor: a single preproprotein may be A;Reference number: S11500; MUID:91109729
A;A;Accession: S11500 2S seed storage protein precursor - castor bean
N;Alternate names: 2S albumin precursor
C;Species: Ricinus communis (castor bean)
C;Date: 14-Nov-1983 #sequence_revision 08-Feb-1996 #text_change 18-Jun-1999
C;Accession: S11499; S11500; S11501; S11502; S27221; A01328; S27222
R;Irwin, S. D.; Lord, J.M.
Nucleic Acids Res. 18, 5890, 1990 A; Molecule type: mRNA
A; Residues: 'M', 4, 'LS', 7-13, 'F', 15-21 < IRF>
A; Experimental source: clone 10a12 A; Experimental source: A; Accession: S11502 A; Experimental source: A; Accession: S11501 A; Molecule type: mRNA A; Residues: 1-13, 'F', 15-73, 'T', 75-258 A; Title: Nucleotide sequence of a Ricinus A; Reference number: S11499; MUID:91016940 A; Accession: S11499 A; Residues: 1-258 < IRW> A; Molecule type: DNA clone 14g4 communis 2S albumin precursor gene from barley bonds invol involving for residue Cys-162 inhibitor

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NWRP2 A25997 S25130 S25127

napin 28 stc 28 stc

T08013

S49259 A37931

NWMU3 B23617

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C; Accession: S01062
C; Accession: S01062
R; Allen, R.D.; Cohen, E.A.; Vonder Haar, R.A.;
Mol. Gen. Genet. 210, 211-218, 1987
Mol. Gen. Genet. 210, 211-218, 1987
A; Title: Sequence and expression of a gene enco
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F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-35/Domain: propeptide #status predicted <PRO>
F;36-72/Product: probable 2S seed storage protein small chain 2 #status predicted <IF:87-156/Product: probable 2S seed storage protein chain large 2 #status predicted <IF:157-190/Product: 2S seed storage protein chain large sexperimental <SML>
F;194-258/Product: 2S seed storage protein small chain #status experimental <LRG>
F;194-258/Product: 2S seed storage protein large chain #status experimental <LRG>
F;194-Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status exper
     A; Introns: 192/2
C; Superfamily: g
F;1-20/Domain; s.
                                                                                    A;Accession: S01062
A;Molecule type: DNA
A;Residues: 1-295 <ALL>
A;Cross-references: EMBL:X06410; NID:g18799;
                                                                                                                                                                                                                                     N;Alternate names: 2S albumin storage protein C;Species: Helianthus annuus (common sunflower) C;Date: 31-Dec-1988 #sequence_revision 31-Dec-1988
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C; Genetics:
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c;Species: Helianthus annuus (common sunflower)
c;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 26-May-2000
C;Accession: S38887
                                                                                                                                                                                                                                                                                          2S seed storage protein precursor (clone HaG5) -
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A; Residues: 1-323 <THO>
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L4; Mismatches
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Pred. No. 1.3e-29;
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              A; Title: A unique vacuolar processing enzyme responsible A; Reference number: S19323; MUID:92077151
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4, 793-800, 1993
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                                                   294, 89-93, 1991
                                                                                                                                                                                                                                                                                                                                        precursor -
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                                                                                                                                                                                                                                                                                                                                                                                                                              70
                                                                                                                                                                                                                                                                                                                                           cucurbit
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Plant J. 4, 793-800, 1993
A; Title: Vesicle transport and processing A; Reference number: Z17000; MUID:94100993
A; Accession: T10257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: protein
A;Residues: 1-70 <OGU>
A;Experimental source: cv. cherry; seed
A;Experimental source: cv. cherry; seed
A;Note: cross-reactive with anti-tomato lectin antiserum; one of foc;Complex: heterodimer of large and small (see PIR:B59346) chains, C;Keywords: heterodimer; pyroglutamic acid; seed; storage protein F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experi
                                                                                                                                           A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA; protein
A;Residues: 1-141 <HAR1>
                                                                                                                                                                                                                                                                                                                                  C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 21-Jul-2000
C;Accession: T10257; S19323
                                                                                                                                                                                                                                                                                                                                                                                  N;Alternate names: prepro2S albumin C;Species: Cucurbita sp. (cucurbit)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N;Alternate names: 2S albumin large subunit C;Species: Lycopersicon esculentum (tomato) C;Date: 31-Dec-2001 #sequence_revision 31-D C;Accession: A59346
                                                                                         A;Cross-references: EMBL:D16560; NID:g459404; PIDN:BAA03993.1; PA:EXperimental source: seed, storage deposition stage; cotyledon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seed storage protein Lec2SAl large chain [imported]
N;Alternate names: 2S albumin large subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQIPRDVQQCCNQLEQIQDPQCRCEGLMKVVQQEEQTGKVQGRQRQQMLQTAENLPGLCR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQESQQLQQCCNQVKQVRD-ECQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQESQQLQQCCNQVKQVRDECQCEAIKYI---AEDQIQQGQ-----LHGEESERVAQR 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RQQEQQLQQCCQELQNIEGQCQCEAVKQVFREAQQQVQQQQGRQLVPFRGSQQTQQLKQK 133
                                          I.; Inoue, K.; Nishimura,
                                                                                                                                                                                                                                                                                                            Takeuchi, Y.; Inoue, K.; Nishimura,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20;
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Pred. No. 4.4e-06;
0; Mismatches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-Dec-2001 #text_change 31-Dec-2001
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No. 1.2e-05;
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  of several
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NWMUI

2S albumin 1 precursor - Arabidopsis thaliana
N;Alternate names: seed storage protein AT2S1
N;Alternate names: seed storage protein AT2S1
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 03-Dec-1999
C;Accession: JA0161; PS0282; S34676; T06044
R;Krebbers, E.; Herdies, L.; de Clercq, A.; Seurinck, J.; Leemans, J.; Van E Plant Physiol. 87, 859-866, 1988
A;Title: Determination of the processing sites of an Arabidopsis 2S albumin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 6
S14947
2S albumin -
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A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 26-45;65-84 <HAR2>
C;Keywords: seed; storage protein
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-35/Domain: propeptide #status experimental <PRO>
F;36-141/Product: 2S albumin #status experimental <MAT>
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A;Title: Isolation, characterization and expression of a gene coding for a 2S; A;Reference number: S14946; MUID:91370890
A;Accession: S14947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jul-2000
C;Accession: S14947
A; Molecule type: protein A; Residues: 38-73; 84-162
                                                            A;Cross-references: GB:M22032;
                                                                                A; Molecule type: DNA
A; Residues: 1-164 <KRE>
                                                                                                                          A; Accession: JA0161
                                                                                                                                              A; Reference number: JA0161
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                                     A; Accession:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-154 <GAN>
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Best Local
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCGV 61
                                                                                                                                                                                                                                                                                                                                                                                                                                 QRC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEPHLDECCEQUERMDEMCRCEGLRWMLRRQREEMELQGEQMQRIMRKAENLLSRCNLSP 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCGV-- 61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 28.6
18; Conservative
                                          PS0282
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28.6%;
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                                                          NID: g166609; PIDN: AAA32743.1;
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Pred. No. 0.00011;
1; Mismatches 21;
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8; Mismatches
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Pred. No. 1.3e-05,
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                                                                                                                                                                                                             Leemans, J.; Van Damme,
                                                          PID:g166614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154;
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A;Map position: 4

A;Map position: 4

C;Superfamily: wheat alpha-amylase inhibitor

C;Keywords: seed; storage protein

C;Keywords: seed; storage protein

F;1-21/Domain: signal sequence *status predicted <SIG>
F;22-164/Product: 2S albumin 1 proprotein *status predicted <AT2>
F;38-73/Product: 2S albumin 1 small chain *status experimental <SMC>
F:4A-162/Product: 2S albumin 1 large chain *status experimental <LAC>
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A;Description: Gene expression during
A;Reference number: Z16588
A;Accession: T09252
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 11-Jun-1999 C;Accession: T09252
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A; Residues: 1-164 <BEV>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: EMBL:Z24745; NID:g395203; PIDN:CAA80870.1; PID:g395204 R;Bevan, M.; Van Der Schueren, J.; Chuang, Y.J.; Voet, M.; Robben, J.; Volsubmitted to the Protein Sequence Database, March 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-164 <CON>
                                                                                                                                                                                                                                                                  A; Gene:
                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:L47745; NID:g1350513; PID:g1350514
                                                                                                                                                                                                                                                                                                                            A; Residues: 1-165 < DON>
                                                                                                                                                                                                                                                                                                                                          A; Molecule type:
                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary; translated A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R; Dong,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seed storage protein EMB25 - white spruce
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:AL035680; GSPDB:GN00062; ATSP:T24A18.90 A;Experimental source: cultivar Columbia; BAC clone T24A18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Accession: T06044
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Best Local
126
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                                        44 ESERVAQRAGEIVSSCGVR 62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87 QQQEQQLFQQCCNELRQEEPDCVCPTLKQAAKAVRLQGQHQPMQVRKIYQTAKHLPNVCD 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
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                                                                                                                                                                                                                                                                  EMB25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J.Z.;
                                                                                                                    QQQESQQLQQCCNQVKQVRDECQCEAIKYIAED--
EEEEVVRRAEELPNTCNVR
                                                                            ERPRDQPSERCCEELQRMSPQCRCQAIQRTLEDVFMDSDSQDGAPLNQRRRQRRGQGRGM 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Picea glauca (white spruce)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21;
                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dunstan,
                                                                                                                                                            Conservative
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                                                                                                                                                                                30.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30.8%;
144
                                                                                                                                                            20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12;
                                                                                                                                                                                Score 107.5; DB : Pred. No. 0.00047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 110; DB 1;
Pred. No. 0.00026;
                                                                                                                                                                                                                                                                                                                                                                from GB/EMBL/DDB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                           une 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           regulatory region is responsible for
                                                                                                                                                                                                                                                                                                                                                                                                                           embryogenesis.
                                                                                                                                                                                                   DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 164;
                                                                                                                                                            Indels
                                                                                                                                                                                                   Length
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                                                                                                                    --QIQQGQLHGE 43
                                                                                                                                                                                                     165;
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                                                                                                                                                          Gaps
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Eur. J. Blochem. 223, 989-995, 1994
A; Title: Structures of heat-stable and unstable homologues of the swe
A; Reference number: $48176; MUID:$4333405
A; Accession: $48178
A; Molecule type: protein
A; Residues: 1-32;33-104 <NIR>
A; Residues: 1-32;33-104 <NIR>
A; Residues: 1-32;33-104 <NIR>
A; Experimental source: seed
C; Superfamily: wheat alpha-amylase inhibitor
C; Keywords: albumin; storage protein; sweet taste
F; 1-32; Product: mabinlin III chain A (fragment) #status experimental
F; 1-32, 33-104/Product: mabinlin III chain B #status experimental
F; 33-104/Product: mabinlin III chain B #status experimental
F; 4-53, 17-42, 43-91, 55-99/Disulfide bonds: #status predicted
                                                                        RESULT
S48176
                              mabinlin I-1 -
C; Species: Capp
                                                                                                                                                                     Дb
                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mabinlin III - Yunnan caper (fragments)
C;Species: Capparis masaikai (Yunnan caper)
C;Species: C-Date: 15-Jul-1995 #sequence_revision 13-Mar-1998 #text_change 20-Mar-1998
C;Accession: S48178; S48179
R;Nirasawa, S.; Nishino, T.; Katahira, M.; Uesugi, S.; Hu, Z.; Kurihara, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
S48178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Experimental source: seed C;Superfamily: wheat alpha-amylase inhibitor C;Superfamily: wheat alpha-amylase inhibitor C;Keywords: albumin; storage protein; sweet taste F;1-28/Product: mabinlin IV chain A (fragment) #status experimental F;1-28,29-100/Product: mabinlin IV (fragment) #status experimental < F;29-100/Product: mabinlin IV chain B #status experimental <CHB>
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C; Species: Capparis masaikai (Yunnan caper)
C; Date: 15-Jul-1995 #sequence_revision 13-Mar-1998 #text_change 20-Mar-1998
C; Accession: S48180; S48181
                                                                                                                                                                                                                                                                                               QΥ
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A; Residues: 1-28;29-100 <NIR>
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A; Title: Structures of heat-stable and unstable homologues of the sweet protein
A; Reference number: S48176; MUID:94333405
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                Matches
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                                                                                                                                                                                                               61
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                              Capparis
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                                                   Yunnan caper (fragments)
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                                   masaikai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T.; Katahira, M.; Uesugi,
                                                                                                                                                                                                                                                                                                                                                                  29.3%;
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                                                                                                                                                                                                                                                                                                                                             Score 104.5; DB 2;
Pred. No. 0.00064;
4; Mismatches 27;
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                                caper)
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smatches 27;
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2S albumin 3 precursor - Arabidopsis thaliana NyAlternate names: seed storage protein AT2S3 C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 C;Accession: JA0163; S34674; PN0174; T06046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Accession: S12404; A33090
R;Gayler, K.R.; Kolivas, S.; Macfarlane,
Plant Mol. Biol. 15, 879-893, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Keywords: albumin; storage protein; sweet taste F;1-32/Product: mabinlin I-1 chain A (fragment) #status experimental <MAT> F;1-32,33-104/Product: mabinlin I-1 (fragment) #status experimental <MAT> F;33-104/Product: mabinlin I-1 chain B #status experimental <CHB> F;4-53,17-42,43-91,55-99/Disulfide bonds: #status experimental
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A; Residues: 1-153 <GAY>
A; Cross-references: GB:X53523; NID:g19140; PIDN:CAA37598.1; PID:g19141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     conglutin delta precursor - narrow-leaved blue lupine
C;Specias: Lupinus angustifolius (narrow-leaved blue lupine)
C;Date: 03-Aug-1990 #sequence_revision 03-Aug-1990 #text_change 21-Jul-2000
C;Accession: $12404; A33090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΨ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F;73-153/Product: conglutin large chain #status predicted <MAT2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F;1-22/Domain: signal sequence *status predicted <SIG>F;23-59/Product: conglutin small chain *status predicted <MAT1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Keywords:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Superfamily: soybean 2S
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A; Residues: 1-32; 33-104 < NIR>
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                                                                                                              NWMU3
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Best Local
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                                                                                                                                                                                                                                                                                                                                   3 QESQQLQQCCNQVKQVRDE-CQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCGV
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19; Conserv
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32.8%;
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                                                                                                                                                                                                                                                                                                                                                                            Score 102; DB 2;
Pred. No. 0.0016;
1; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 103.5; DB Pred. No. 0.00081
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                                                                                                                                                                                                                                                                                                                                                                                                                      Length 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hu,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 104;
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#text_change 10-May-2001

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conglutin delta-2 large chain - narrow-leaved blue lupine (Species: Lupinus angustifolius (narrow-leaved blue lupine) C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change C;Accession: B23617 R;Lilley, G.G.; Inglis, A.S. FEBS Lett. 195, 235-241, 1986 A;Reference number: A91358 A;Accession: B23617 A;Accession: B23617
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C;Superfamily: wheat alpha-amylase inhibitor
C;Keywords: seed; storage protein
C;Keywords: seed; storage protein
E;1-21/Domain: signal sequence #status predicted <SIG>
E;22-164/Product: 2S albumin 3 proprotein #status predicted <AT2>
E;38-72/Product: 2S albumin 3 small chain #status predicted <SMC>
F;82-162/Product: 2S albumin 3 large chain #status predicted <LAC:
A; Molecule type: protein A; Residues: 1-80 <LII.> C; Superfamily: soybean 29
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A; Residues: 1-164 <BEV>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Bevan, M.; Van Der Schueren, J.; Chuang, Y.J.; Voet, M.; Robben, J.; Volckaert, G.; submitted to the Protein Sequence Database, March 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: PN0173
A; Accession: PN0174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:224744; NID:g395200; PIDN:CAA80868.1; PID:g395201 R;Tsugita, A.; Kamo, M.; Kawakami, M.; Ohki, Y. submitted to JIPID, December 1995 A;Description: Two dimensional electrophoresis of plant proteins and stand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-164 <CON>
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A;Description: Tentative title: a cotyledon regulatory region is responsible for the dif A;Reference number: S34674
A;Accession: S34674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Krebbers, E.; Herdies, L.; de Clercq, A.; Seurinck, J.; Leemans, J.; Van Damme, J.; Plant Physiol. 87, 859-866, 1988
A;Title: Determination of the processing sites of an Arabidopsis 2S albumin and charach, Reference number: JA0161
A;Accession: JA0163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Gene: T24A18.110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:AL035680; GSPDB:GN00062; ATSP:T24A18.110
A;Experimental source: cultivar Columbia; BAC clone T24A18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-164 <KRE>
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 36.6 tes 26; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGE-ESERVAQRAGEIVSSCG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QQGYQLLQQCCNELRQEEPVCVCPTLKQAARAVSLQGQ-HGPFQSRKIYQSAKYLPNICK 144
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   2S albumin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28.3%; Score 101; DB 1; I 36.6%; Pred. No. 0.0022; tive 11; Mismatches 28;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NID: g166611; PIDN: AAA32745.1;
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                                                                                                                                        delta, a sulfur-rich seed protein
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C;Genetics:
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R; Chatthai, M.; Misra, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2S seed storage protein precursor - Douglas fir C;Species: Pseudotsuga menziesii (Douglas fir) C;Date: 21-May-1999 #sequence_revision 21-May-1999
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T08010
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C; Keywords:
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A; Residues: 1-162 < CHA>
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                                                                                                                                                                                                                                                                                                                                                                   A; Reference number: A; Accession: T08010
                                                                                                                                                                                                                                                                                                                                                                                      A;Title: Structure and expression of embryogenesis-specific cDNAs encoding A;Reference number: Z16286; MUID:98381325
                                                                                                                                                                                                                                                                                                                                                                                                                          Planta 206, 138-145, 1998
                                                                                                                                                             Query Match
Best Local
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Matches 23; Conservative 1
                                                                                                                                                Matches
126 EMAERAAYLPDTCNVQESPRRC 147
                                    47 RVAQRAGEIVSSCGV----RC
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nes 21; Conserv
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                                                                                                        1 QQQESQQLQQCCNQVKQVRDECQCEAIKYI-----AEDQIQQ--GQLHG---EESE 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQQESQQLQQCCNQVKQVRDE-CQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVS-- 57
: :||::| ||| |: : : ||| |: : | | |: | : | | ||:
ESEESEELDQCCEQLNELNSQRCQCRALQQIYESQSE--QCEGRQQEQ--QLEGELEKLP 62
                                                                        ERRREQPSESCCNELERMSPQCRCPAIQQVLDQSASFMDSEDALNQRRGRREGRGRREEQ 125
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                                                                                                                                                                                                                                       seed; storage
                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                             EMBL:AF029970; NID:g2988477; PIDN:AAC26998.1; PID:g2988478
                                                                                                                                                             26.8%;
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                                                                                                                                          Score 95.5; DB 2;
Pred. No. 0.0081;
Prematches 21;
                                    63
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6; Mismatches 23;
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                                                                                                                                                                                Length 162;
                                                                                                                                                Indels
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Search completed: September 9, 2002, 12:43:30 Job time: 222 sec

Query Match

27.5%;

Score

98;

DВ

2

Length 80;

GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

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Minimum DB
Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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              Pred. No. is the number of results predicted by chance to score greater than or equal to the score of the result by and is derived by analysis of the total score distributions.
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seq length: 2000000000
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Match
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1: pir1:*
2: pir2:*
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4: pir4:*
           BLOSUM62
Gapop 10.0 ,
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186
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S00254
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S38897
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A25802
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2S seed storage process albumin precurs 2s albumin - commc 2s albumin - commc 2s albumin - Brazi 2s seed storage process process seed storage process seed s
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51	51	51	51	51.5	51.5	51.5	51.5	51.5	52 .	52	53	53	53	53	53
27.4	27.4	27.4	27.4	27.7	27.7	27.7	27.7	27.7	28.0	28.0	28.5	28.5	28.5	28.5	28.5
302	187	63	60	655	418	165	161	104	2061	722	3844	830	815	685	518
N	N	N	N	N	ν	N	N	N	N	N	N	N	N	N	Ν
T13457	В83467	S29177	S29179	T28885	н83126	T09252	JC4966	S48176	T13751	T02421	T18402	S15720	В30843	в82606	D84977
hypothetical prote	hypothetical prote	high-molecular-wei	high-molecular-wei	hypothetical prote	probable secretion	seed storage prote	high-molecular-wei	mabinlin I-1 - Yun	transcription fact	hypothetical prote	asparagine/asparta	glutenin high mole	glutenin high mole	conjugal transfer	glutamatecystein

Trantitue bound theoreting claims	C;Superfamily: 2S seed storage protein precursor	pothetical prote
inhibitor from barley	A; Note: this protein is homologous with trypsin in	riplasmic ribonu
	A;Reference number: A90322; MUID:83308577 A:Contents: annotation	utenin, high mol utenin high mole
(Hordeum vulgare) trypsin inhibitor a	A;Title: Structural relationship between barley (binlin III - Yun
	R; Odani, S.; Koide, T.; Ono, T.; Ohnishi, K.	otein F53H1.4 [i
residues 181-231 of this protein and	A; Note: 230 Set was also round A; Note: there is considerable similarity between residues 181-231 of this protein and	pormerical proce
'N',235-254,'Q',256-258 <sha></sha>	A; Residues: 157-190; 194-221, 'Q', 223-225, 230-233, 'N', 235-254, 'Q', 256-258 <sha></sha>	utenin, high-mol
	A; Molecule type: protein	utenin high mole
	A; Reference number: A92357; MUID:83082772	utenin high mole
subunits of seed storage protein from	J. B1O1. Chem. 257, 14753~14759, 1982 A;Title: Amino acid sequence of small and large s	ngiutin deita-z pothetical prote
	R; Sharief, F.S.; Li, S.S.L.	pothetical prote
-174,'X' <ira></ira>	A; Residues: 'X',37,'X',39-45;'X',158-161,'X',163-174,'X'	nglutin delta pr
	A; Accession: S27221	ed storage prote
	A; Experimental source: clone 10a12	seed storage pr
	A;Residues: 'M',4,'LS',7-13,'F',15-21 <irf></irf>	potneticai prote
	A; Accession: S11502	licing regulator
	A; Experimental source: clone 8g8	seed storage pr
	A; MOLECULE CYPE: MKNA	albumin - Commo albumin - Brazi
	A; Accession: S11501	albumin precurs
	A; Experimental source: clone 14g4	seed storage pr
	A;Residues: 1-13,'F',15-73,'T',75-258 <ir2></ir2>	SCITPULL
	A; Accession: S11500	000000000000000000000000000000000000000
	A;Reference number: S11500; MUID:91109729	
or: a single preproprotein may be pro	A;Title: The Ricinus communis 2S albumin precurso:	
, J.M.	R; Irwin, S.D.; Keen, J.N.; Findlay, J.B.C.; Lord, J.M.	ion.
residue 14 as Phe, CCA for residue 7	A; Note: the authors translated the codon CTC for residue 14 as Phe, CCA for	being printed,
N:CAA38097.1; PID:q21068	A; Residues: I-238 <ikw> A; Cross-references: EMBL:X54158; NID:q21067; PIDN:CAA38097.1; PID:q21068</ikw>	to have a
	A; Molecule type: DNA	
	A; Accession: S11499	
is as assumed precursor gene.	A; Reference number: \$11499; MIID: 91016940 A: Reference number: \$11499; MIID: 91016940	
	Nucleic Acids Res. 18, 5890, 1990	
	R; Irwin, S.D.; Lord, J.M.	
96 #text_change 18-Jun-1999 221: A01328: S27222	C:Accession: S11499: S11500: S11501: S11502: S27221: A01328: S27222	
	C; Species: Ricinus communis (castor bean)	
	2S seed storage protein precursor - castor bean	
	RESULT 1 RZCS	
		8
	ALIGNMENTS	
hypothetical prote	45 51 27.4 302 2 T13457	
hvmへ+ho+iou 1 510+0	51 27 / 187 2	

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A; Status: preliminary
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 26-45;65-84 <HAR2>
C; Keywords: seed; storage protein
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-35/Domain: propeptide #status experimental <PRO>
F;36-141/Product: 25 albumin #status experimental <MAT>
                                                                   C:Species: Helianthus annuus (common sunflower)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995
C;Accession: S38887
R:Thoyts, P.J.E.; Millichip, M.; Stobart, A.K.; Gri
submitted to the EMBL Data Library, November 1993
A:Reference number: S38887
A:Accession: S38887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Keywords: pyroglutamic acid; seed; storage protein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;2-35/Domain: propeptide #status predicted <PRO>
F;36-72/Product: probable 2S seed storage protein small chain 2 #status predicted <LCH1
F;87-156/Product: probable 2S seed storage protein chain large 2 #status predicted <LCH1
F;157-190/Product: 2S seed storage protein small chain #status experimental <SML>
F;194-258/Product: 2S seed storage protein large chain #status experimental <LRG>
F;194-Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experime
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:D16560; NID:g459404; PIDN:BAA03993.1; PID:g459405 A;Experimental source: seed, storage deposition stage; cotyledon A;Note: soluble seed protein R:Hara-Nishimura, I.; Inoue, K.; Nishimura, M. FEBS Lett. 294, 89-93, 1991
A;Title: A unique vacuolar processing enzyme responsible for conversion of A;Reference number: S19323; MUID:92077151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Species: Cucurbita sp. (cucurbit)
C;Species: Cucurbita sp. (cucurbit)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 21-Jul-2000
C;Accession: T10257; S19323
R;Hara-Nishimura, I.; Takeuchi, Y.; Inoue, K.; Nishimura, M.
Plant J. 4, 793-800, 1993
A;Title: Vesicle transport and processing of the precursor to 2S albumin in A;Reference number: Z17000; MUID:94100993
A;Accession: T10257
  A; Molecule type: r
A; Residues: 1-323
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                                                A; Status: preliminary
                                                                                                                                                                                                                                 2S albumin -
                                                                                                                                                                                                                                                      S38887
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Best Local Similarity
Matches 37; Conserv
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                           mRNA
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Pred. No. 2.6e-16;
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                                                                                                                                       Napier, J.A.;
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C;Species:
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  regulator Ceswap
s: Caenorhabditis
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C;Superfamily: wheat alpha-amylase inhibitor C;Keywords: pyroglutamic acid F;1/Modified site: pyrrolldone carboxylic acid
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A; Accession: A25802
                                                                                                                                                                                                                                                                                                                                                                            2S seed storage protein small chain - Brazil nut
C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 19-May-2000
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C; Superfamily:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Plant Mol. Biol. 16, 437-448, 1991
A;Title: Isolation, characterization and expression
A;Reference number: S14946; MUID:91370890
A;Accession: S14947
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C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jul-2000
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C;Superfamily: gliadin
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                                                                                                                                                                                                                                                                                                                                                          C; Accession:
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A;Molecule type: DNA
A;Residues: 1-154 <GAN>
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Best Local S
Matches 14
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Best Local Similarity
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Best Local Similarity
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J. Blochem. 159, 597-604, 1986
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                                     12 QQCRQEVQRKD-LSSCERYLRQ
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2 QQCREQMQRQQMLSHCRMYMRQ
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Pred. No.
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Pred. No. 0.
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Pred. No. 0.
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Gr

Caenorhabditis elegans

elegans

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25 seed storage protein large chain - Brazil nut
N;Alternate names: albumin 25 precursor
C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 21-Nov-1993 #sequence_revision 26-May-1995 #text_change 21-Jul-2000
C;Accession: S14946; S14479; S06252; S21640; B25802
R;Gander, E.S.; Holmstroem, K.O.; de Paiva, G.R.; de Castro, L.A.B.; Carnein
                                                                                                                                                                                                                          RESULT
S14946
Plant Mol. Biol. 16, 437-448, 1991
A;Title: Isolation, characterization and expression of a gene A;Reference number: $14946; MUID:91370890
A;Status: preliminary
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A; Molecule type: DNA
A; Residues: 1-798 <TAI>
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A;Accession: S50095
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-551 <SP2>
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A; Accession: S53765
A; Status: preliminary
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C;Accession: S53765; S50095 
R;Spikes, D.A.; Kramer, J.; Bingham, P.M.; van Doren, Nucleic Acids Res. 22, 4510-4519, 1994 
A;Title: SWAP pre-mRNA splicing regulators are a novel
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A;Introns: 17/3; 60/2; 80/2; 128/1; 458/3;
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A; Residues: 1-749 <SPI>
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Best Local S
Matches 12
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                                                                                                                                                                                                                                                                                                                                          EREGSSSQQCRQEVQRKDLSSCERYL 30
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                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           434/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33.3%;
46.2%;
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ay be
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                                                                                                                                                                                                                                                                                                                                                                                                  Score 62; DB 2; Length 798; Pred. No. 4.4;
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Pred. No. 4
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                                                            albumin
                                                                                                 Σ
..
                                                                                                   Gros
                  A; Note: part of this C; Genetics:
                                                                                                                    A; Reference number: A; Accession: S01062
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the EMBL Data A; Reference number: S21640 A; Accession: S21640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R; Altenbach, S.B.; | Plant Mol. Biol. 8,
                                                            A; Cross-references:
                                                                            A; Molecule type: DNA
A; Residues: 1-295 < ALL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: DNA
A; Residues: 1-146 <B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A; Accession: S06252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Reference number: S14479
A; Accession: S14479
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Experimental source: clone pHS-3
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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A;Introns: 60/3
A;Introns: 60/3
C;Superfamily: wheat alpha-amylase inhibitor
C;Superfamily: wheat alpha-amylase inhibitor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-46/Domain: propeptide #status predicted <PRO>
F;47-69/Product: seed storage protein small chain #status predicted <SCH>
F;47-69/Product: seed storage protein large chain #status experimental <I
                                                                                                                                                                                                                                                         RESULT 9

$01062

$01062

25 seed storage protein precursor (clone HaG5) -
25 seed storage protein storage protein
0; Alternate names: 25 albumin storage protein
0; Species: Helianthus annuus (common sunflower)
0; Date: 31-Dec-1988 #sequence_revision 31-Dec-198
0; Accession: $01062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: EMBL:X57028; NID:g17716; PID:g17717 R;Ampe, C.; Van Damme, J.; de Castro, L.A.B.; Sampaio, M. Eur. J. Biochem. 159, 597-604, 1986 A;Title: The amino-acid sequence of the 2S sulphur-rich A;Reference number: A91173; MUID:87004679 A;Accession: B25802
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                                                                                                                                             R;Allen, R.D.; Cohen, E.A.; Vonder Haar, R.A.; Adams, C.A.; Ma, D.P.; Nessler, Mol. Gen. Genet. 210, 211-218, 1987
A;Title: Sequence and expression of a gene encoding an albumin storage protein A;Reference number: S01062; MUID:88142538
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: protein
A; Residues: 70-90, 'E', 92-121, 'M', 123-125, 'L', 127-142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Note: part of this sequence, including the amino R;Bassuener, R.; Schlesier, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: not compared with conceptual translation A;Molecule type: mRNA A;Residues: 1-146 <ALT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     submitted to the EMBL Data Library, December 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-146 <GAN>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EEENQEECREQMQRQQMLSHCRMYMRQ
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EMBL: X06410; NID: g18799; PIDN: CAA29699.1; sequence, including the amino end of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Library, December 1990
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Pred. No. 1;
8; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                            common sunflower
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                                 PID:g18800
   mature protein,
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puroindoline-b precursor - wheat
C;Species: Triticum aestirum (con
C;Date: 06-Feb-1995 #sequence_rev
C;Accession: S46514
 RESULT
A33090
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S46514
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F;1-29/Domain: signal sequence #status predicted <SIG>
F;30-145/Product: puroindolline-a #status predicted <MAT>
F;146-148/Domain: carboxyl-terminal propeptide #status predicted
                                                                                                                                                                                                                                                                                                                                                              A; Title: Triticum aestivum puroindolines, A; Reference number: S46514; MUID:94272013 A; Accession: S46514
                                                                                                                                                                                                                                                                                                                                                                                                                  R; Gautier, M.F.; Aleman, M.E.; Gu
Plant Mol. Biol. 25, 43-57, 1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Experimental source: cv. cherry; seed C; Complex: heterodimer of large (see PIR: A59346) and C; Keywords: heterodimer; seed; storage protein
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A; Residues: 1-148 <GAU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Species: Triticum aestivum (common wheat);Date: 06-Feb-1995 #text_change 20-Aug-1999;Date: 06-Feb-1995 #sequence_revision 06-Feb-1995 #text_change 20-Aug-1999
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Best I
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                                                                                                                                                               Query Match
Best Local
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                                                                                                                                            Local Similarity 52.0 nes 13; Conservative
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                                                                      34 GGGSQQCPQE--RPKLSSCKDYVME
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                                                                                                          GSSSQQCRQEVQRKDLSSCERYLRQ 32
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seed storage protein #status exp
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                                                                                                                                                             31.2%;
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36.0%;
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Pred. No.
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Pred. No. 0.
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                                                                                                                                                                                                 RESULT 14
A23617
                                R;Lilley, G.G.; Inglis, A.S.
FEBS Lett. 195, 235-241, 1986
A;Title: Amino acid sequence
A;Reference number: A91358
A;Accession: A23617
                                                                                                                                          congiutin delta-2 small chain - narrow-leaved blue lupine
C;Species: Lupinus angustifolius (narrow-leaved blue lupine)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 11-Jan-2000
                                                                                                                                                                                                                                                                         밁
A; Molecule type:
A; Residues: 1-37
                                                                                                                         C; Accession: A23617
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Inglis, A.S. 235-241, 1986

of

conglutin delta,

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sulfur-rich

seed

protein of Lupinu

protein

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Query Match
Best Local Similarity
Watches 12; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              conglutin delta precursor - narrow-leaved blue lupine
C;Species: Lupinus angustifolius (narrow-leaved blue lupine)
C;Date: 03-Aug-1990 #sequence_revision 03-Aug-1990 #text_change 21-Jul-2000
C;Accession: S12404; A33090
                                                                                                                                                                                                                        A; Map position:
                                                                                                                                                                                                                           A;Gene: At2g18540
A;Map position: 2
                                                                                                                                                                                                                                                                                               A;Cross-references: GB:AE002093; NID:g4218005; PIDN:AAD12213.1; GSPDB:GN00139
                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-699 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A84420;
A; Accession: E84565
                                                                                                                                                                                                                                                                                                                                                                                                                            A; Title: Sequence and analysis of chromosome 2 of A; Reference number: A84420; MUID: 20083487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein At2g18540 [imported] - Arabidopsis thaliana (;Species: Arabidopsis thaliana (mouse-ear cress) C;Decies: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001 C;Accession: E84565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F;73-153/Product: conglutin large chain #status predicted
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F;23-59/Product: conglutin small chain #status predicted <MATI>
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C;Keywords: seed
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A;Residues: 1-153 <GAY>
A;Cross-references: GB:X53523; NID:g19140; PIDN:CAA37598.1;
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A;Accession: S12404
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                                                                                                                                                                                                                                                                                                                                                                          A; Status: preliminary
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                                            1 ESKGEREGSSSQQCRQEVQRKDLSSCERYLRQSSSRR 37
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C; Superfamily: soybean 2S albumin

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hypothetical protein ZK563.5 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Decies: Caenorhabditis elegans
C;Decies: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 04-Mar-2000
C;Accession: TZ7917
R;Le, T.
R;Le, T.
Submitted to the EMBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid ZK563.
A;Reference number: Z20439
A;Accession: TZ7917
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Acceule type: DNA
A;Residues: 1-241 < LET>
A;Cross-references: EMBL:U40061; PIDN:AAA81151.1; CESP:ZK563.5
C;Genetics:
A;Gene: CESP:ZK563.5
A;Introns: 41/3; 78/3; 130/1; 188/3; 203/3
C;Superfamily: Caenorhabditis elegans hypothetical protein ZK563.5
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Search completed: September 9, 2002, 12:43:30 Job time: 222 sec
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                                                                                                         9 SSSQQCRQEVQRKDLSSCERYLRQ 32
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3 SSEQSCKRQLQQVNLRHCENHIDQ 26
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Brassica campestri
Napin 1-2 gene pro
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19 19 19 21 21 19	10 10 10 10	118 119 129 149 15 15 118 118 118 118
AAW86267 AAW86268 AAW86268 AAW66270 AAY58049 AAY58050 AAW86272 AAW86272	AAU04707 AAV40968 AAB82383 AAW10569 AAW23587 AAW23587 AAW2356262 AAW86264 AAW86264 AAW86264 AAW86269	AAW15415 AAW859526 AAB85931 AAP81140 AAP81140 AAY84356 AAB33600 AAV964356 AAB33600 AAW30670 AAW30670 AAW30670 AAW30670 AAW30470 AAW340973 AAW24164 AAW24164 AAW24164
Modified Brazil nu Modified Brazil nu Modified Brazil nu Modified Brazil nu Puroindoline B pro Serine substituted Modified Brazil nu Modified Brazil nu	ctic ant; ctic ant; ant Ara h llergen A llergen A III prepr MBLII fr ut 12 kD c 12 kd p c 12 kd p e Brazil n the Brazil n	Napin encoded by c Brassica campestri B. campestris lamb Sequence encoded b Napin protein from Amino acid sequenc Modified Ara h 2 a Modified anaphylac Modified anap

ALIGNMENTS

RESULT AAB15422 Brieva Delgado A, Pivel Ranieri JP, 17-JAN-2001 (first entry) AAB15422 standard; WPI; 2000-558369/51. 31-AUG-2000 WO200050087-A1. Ricinus communis. Antitumour; antimicrobial; immunostimulatory; glycoconjugate; mannose; polysaccharide; mannose; galactose; castor bean; immune response; human; 2s albumin storage protein; animal; tumour necrosis factor; mononuclear; phagocyte; granulocyte; macrophage; tumour; immunogen; Candida utilis. Castor bean 2S albumin storage protein amino acids 87-154. AAB15422; 26-FEB-1999; 21-OCT-1999; (INFA-) IND FARM CANTABRIA SA 99ES-0000408. 99WO-ES00338 Garcia Villarrubia V, Gimenez Gallego G, Ma peptide; 89 B V, Guerrero Gomez-Pamo A;
Matji Tuduri JA;

New glycoconjugate, useful for treating immunological disorders, comprises polysaccharide from Candida utilis and polypeptide from

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RESULT
AAB15423
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the consensus sequence:

CC EACCADC(QERK)Z(Z')(LIVM)ZCCC(Z')(QEH)(LIV)Z6CZCZZZGCZCZ(ZCCZZ(GCZCZ)CGCZCZ/GCCZ(ZCCZZGCCZCZ)CCCZ(ZCCZZCCZZCCZ)

CC where Z = any amino acid (aa); Z' = hydrophobic aa; Z' = hydrophilic aa;

CC a = 3-48; b = 9-13; c = 15-39; d = 13-56; e = 15-56; f = 1-8; g = 1-11;

CC corresponds to amino acids 87-154 of the Ricinus communis (castor bean)

CC corresponds to amino acids 87-154 of the Ricinus communis (castor bean)

CC corresponds to amino acids 87-154 of the Ricinus communis (castor bean)

CC corresponds to amino acids 87-154 of the Ricinus communis (castor bean)

CC corresponds to amino acids 87-154 of the Ricinus communis (castor bean)

CC continuous corresponds in humans and animals, especially it reduces the monunt of tumour necrosis factor (TNF) produced and stimulates the monunclear phagocyte system and expands the granulocyte-macrophage

CC compartment. (A) are used for treating disorders of the immune system,

CC e.g. infections and tumours. (A) do not interfere with metabolic

CC processes in the liver and are active when given orally. Pp significantly increases the antigenic response to weakly immunogenic PS, including

CC induction of a T-dependent response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                              Antitumour; antimicrobial; immunostimulatory; glycoconjugate; mannose; polysaccharide; mannose; galactose; castor bean; immune response; human; 2S albumin storage protein; animal; tumour necrosis factor; mononuclear; phagocyte; granulocyte; macrophage; tumour; immunogen; Candida utilis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50-250 kDa polysaccharide (PS), containing one phosphate group per 5-25 monosaccharide units, and a polypeptide (PP) having a particular consensus sequence. In PS, at least 40% of the monosaccharide residues are mannose and the remainder are glucose and/or galactose. The main chain comprises 1-6 links, with less than 60% 1,2-branching. The PP has
                     Pivel Ranieri JP,
                                    Brieva Delgado A,
                                                                                                               26-FEB-1999;
                                                                                                                                                                                        31-AUG-2000
                                                                                                                                                                                                                                                               Ricinus communis.
                                                                                                                                                                                                                                                                                                                                                                                              Castor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB15423 standard; peptide; 65 AA
                                                                         (INFA-) IND FARM CANTABRIA SA
                                                                                                                                                    21-OCT-1999;
                                                                                                                                                                                                                             WO200050087-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB15423;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 3; Page 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel glycoconjugate (A) comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 vrcmrqtr
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                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                        2S albumin storage protein amino acids 194-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89
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                                                                                                               99ES-0000408
                                                                                                                                                    99WO-ES00338
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               Garcia Villarrubia V, Guerrero Gomez-Pamo Gimenez Gallego G, Matji Tuduri JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 357; DB 21;
Pred. No. 2.6e-36;
; Mismatches 0;
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CC ZaCDC(CERK)Z(Z')(LIVM)ZcCC(Z')(OEH)(LV)Z6CZCZZdGZecCZ(VIIM)ZfCZg
CC where Z = any amino acid (aa); Z' = hydrophobic aa; Z' = hydrophilic aa;
CC the parentheses indicate the preferred sequence. This sequence
CC corresponds to amino acids 194-258 of the Ricinus communis (castor bean)
CC 2S albumin storage protein which is used to generate the glycoconjugate
CC of the invention, with a polysaccharide from Candida utilis. (A) modifies
CC the immune response in humans and animals, especially it reduces the
CC amount of tumour necrosis factor (TNF) produced and stimulates the
CC mononuclear-phagocyte system and expands the granulocyte-macrophage
CC compartment. (A) are used for treating disorders of the immune system,
CC processes in the liver and are active when given orally. PP significantly
CC induction of a T-dependent response to weakly immunogenic PS, including
CC induction of a T-dependent response.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to a novel glycoconjugate (A) comprising a 50-250 kDa polysaccharide (PS), containing one phosphate group per 5-25 monosaccharide units, and polypeptide (PP) having a particular consensus sequence. In PS, at least 40% of the monosaccharide residues are mannose and the remainder are glucose and/or galactose. The main chain comprises 1-6 links, with less than 60% 1,2-branching. The PP has
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI;
                                              WO8903887-A
                                                                                               protein
                                                                                                                             region
                                                                                                                                                             protein
                                                                                                                                                                                                               Key
                                                                                                                                                                                                                                           Arabidopsis
                                                                                                                                                                                                                                                                           heterologous
                                                                                                                                                                                                                                                                                                                                                                        29-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                        AAP91892
                                                                                                                                                                                                                                                                                                                                                                                                                                      AAP91892 standard; protein; 164 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 3; Page 30; 38pp; Spanish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New glycoconjugate, useful for treating immunological disorders, comprises polysaccharide from Candida utilis and polypeptide from
                                                                                                                                                                                            Peptide
                                                                                                                                                                                                                                                                                          2S-albumin;
                                                                                                                                                                                                                                                                                                                          2S-albumin gene
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                                                                                                                                                                                                                                                                                                                                          acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   communis
                                                                                                                                                                                                                                                                                                                                          sequence
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                                                                                                                                                                                                                                                                         Arabidopsis thaliana; storage protein gene s polypeptide.
                                                                                                                                                                                                                                             thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                              /note="mature large subunit"
                                                                                                                                             /note="mature small subunit"
                                                                                                                                                                                                             Location/Qualifiers
                                                                                                          note="processing site"
                                                                                                                                                                          note="signal peptide"
                                                                                                .157
                                                                                                                                                                                                                                                                                                                                         of 1kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 33.9%; Score 121; DB 21;
34.5%; Pred. No. 1.8e-07;
tive 15; Mismatches 23
                                                                                                                                                                                                                                                                                                                                          fragment
                                                                                                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                                                                          the Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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05-MAY-1989

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空上。何989年150783/20.
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34.4%; Pred. No. 1.
Conservative 12; Micman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified storage protein genes for expressing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ant DNA expression in plants
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 e 25-albumin storage protein precursor including public It is to be inserted into plants under the control of peitro promoter and expressed at high levels only or mostly bed forming stage and produced mostly in the seeds.
                                 LANT GENETIC SYST
                                                                                                                                                                                                                                                                                                                               proofed by ikb fragment containing the Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ous polypeptide(s) in the seeds
                                                                                                                                                                                                                                                                                                                                                                                                                                    tandard protein; 164 AA.
                                                                                                                                                                                                                                                                                                        plant; nutrition enrichment; storage protein
                                                                                                                                                                                                                                                                          thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wfqqccnelrqeepdcvcptlkqaakavrlqgqhqpmqvrkiyqtakhlpnvcd 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ove JS, Krebbers E,
                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                             . 88EP-0402611.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENETIC SYST.
                                                                                          88EP-0402650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      87EP=0402348
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                                                                                                                                                                                                                                                           Loca
                                                                                                                                                                                            Tabel=large subunit
                                                                                                                                                                                                                            abel-small subunit
                                                                                                                                                                                                                                                   ion/Qualifiers
       Vandekerkhove JS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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Chen H,

Hu Z,

Sun SSM,

Xiong L;

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RESULT
AAW23588
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Transgenic plants contg. protein of high nutritional value - obtd. by inserting gene for 2S albumin modified for enrichment of specific aminoacid(s)
                                            23-JUN-1995;
                                                                                             09-JAN-1997.
                                                                                                                                                                                                                                                                                                      Capparis
                                                                                                                                                                                                                                                                                                                              pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                            Mabinlin MBLIII from Capparis masaikai.
                                                                                                                                                                                                                                                                                                                                                                                                       30-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                              AAW23588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW23588 standard; Protein; 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                    (UYHA-) UNIV HAWAII.
                                                                     21-JUN-1996;
                                                                                                                   WO9700945-A1
                                                                                                                                                      Region
                                                                                                                                                                                         Region
                                                                                                                                                                                                                                           Protein
                                                                                                                                                                                                                                                                             кеу
                                                                                                                                                                                                                                                                                                                                       MBL; sweetener; transgenic plant; recombinant protein; food; beverage; animal feed; chewing gum; dental hygiene product;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Prodn. of transgenic plants with increased nutritional value is claimed. The method comprises cultivating plants, obtd. over 1 or more generations from regenerated plant cells (or seeds) which include a nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAN90116.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1989-159382/22.
                                                                                                                                                                                                                 Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           control of a promoter. The modified proteins are expressed at \mathfrak n_1 levels, without any alteration to correct expression, processing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            encoding a modified form of a natural 2S albumin storage protein, uncontrol of a promoter. The modified proteins are expressed at high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example; Fig 4; 31pp; English.
                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147 i 147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87 qqqeqqlfqqccnelrqeepdcvcptlkqaakavrlqgqhqpmqvrkiyqtakhlpnvcd 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 34.4 les 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 QQQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ഗ
                                                                                                                                                                                                                                                                                                      masaikai.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                            95US-0000480
                                                                     96WO-US10669
                                                                                                                                                        87..158
                                                                                                                                                                                                                   /label= MBLIII
40..70
                                                                                                                                           /label= B_chain
                                                                                                                                                                             /note=
                                                                                                                                                                                                      /label= A_chain
                                                                                                                                                                                                                                                    /label=
                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30.8%;
                                                                                                                                                                                            . 86
                                                                                                                                                                 "14 amino acids evidently lost when mature dimer is formed"
                                                                                                                                                                                                                                                     Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 110; DB 10;
Pred. No. 1.2e-05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 164;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents the mabinlin MBLIII. The encoding cDNA can modulate the expression of the gene encoding MBL in a cell or tissue. Mabinlin comes from the seeds of the Capparis masaikai plant, and is limited by its native availability, and so methods for producing recombinant mabinlin protein are being produced using chimeric genes such as MBLII (see AAT60776). The products provide recombinant materials for the production of the MBL protein in practical amounts, and for the production of transgenic plants containing inherently sweet edible parts by virtue of production of MBL in situ. The MBL protein can be used to sweeten foods, beverages, animal feeds, chewing gum, dental hygiene products and pharmaceuticals.
              23-JUN-1995;
                                    21-JUN-1996;
                                                              09-JAN-1997.
                                                                                     W09700945-A1.
                                                                                                                         Region
                                                                                                                                                             Region
                                                                                                                                                                                                                                                                        Capparis
                                                                                                                                                                                                                                                                                                           beverage; animal
                                                                                                                                                                                                                                                                                                                                                     Mabinlin
                                                                                                                                                                                                                                                                                                                                                                                                                             AAW23586 standard; Protein; 158
                                                                                                                                                                                      Region
                                                                                                                                                                                                             Protein
                                                                                                                                                                                                                                                                                                   pharmaceutical.
                                                                                                                                                                                                                                                                                                                         MBL; sweetener; transgenic plant; recombinant protein; food
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mabinlin nucleotide sequences -
                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recombinant proteins,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1997-087372/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 V----RC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHG-EESERVAQRAGEIVSSCG 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ipavgrc 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qqrgpalr1ccnq1rqvnkpcvcpv1rqaahqq1yqgqiegprqvrr1fraarn1pnick 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Similarity
| 22; | Conserv
                                                                                                                                                                                                                                                                           masaikai.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     158 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fig 3; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                  from
                                     96WO-US10669
                                                                                                                                                             /label= A_chain
71..86
                                                                                                                        87..158
                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                 /note=
                                                                                                                                                                                                                                                                                                             feed; chewing gum; dental hygiene product;
                                                                                                                                                                                                'label= MBLI
                                                                                                                                                                                                                         /label= Signal
                                                                                                                                                                                                                                                                                                                                               Capparis masaikai.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30.1%;
32.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    useful as sweeteners,
                                                                                                                                   "14 amino acids evidently lost when dimer is formed"
                                                                                                            B_chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 107.5;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                             AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for prodn. of transgenic plants sweeteners, partic. in foods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.3e-05;
les 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or
C
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AAR53579
ID AAR5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence represents the mabinlin MBLI. The encoding cDNA can modulate the expression of the gene encoding MBL in a cell or tissue. Mabinlin comes from the seeds of the Capparis masaikai plant, and is limited by its native availability, and so methods for producing recombinant mabinlin protein are being produced using chimeric genes such as MBLII (see AAT60776). The products provide recombinant materials for the production of the MBL protein in practical amounts, and for the production of transgenic plants containing inherently sweet edible parts by virtue of production of MBL in situ. The MBL protein can be used to sweeten foods, beverages, animal feeds, chewing gum, dental hygiene
                                  11-MAY-1994.
                                                                                              Misc-difference
                                                                                                                     Peptide
                                                                                                                                            Peptide
                                                                                                                                                                    Protein
                                                                                                                                                                                            Protein
                                                                                                                                                                                                        Key
                                                                                                                                                                                                                               Synthetic.
                                                                                                                                                                                                                                                       oligonucleotides.
                                                                                                                                                                                                                                                                    Nutrition;
                                                                                                                                                                                                                                                                                           Synthetic 2S seed storage protein.
                                                                                                                                                                                                                                                                                                                    25-OCT-1994
                                                                                                                                                                                                                                                                                                                                             AAR53579;
                                                                                                                                                                                                                                                                                                                                                                     AAR53579 standard; Protein; 171 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  products and pharmaceuticals.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1997-087372/08.
N-PSDB; AAT60775.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mabinlin nucleotide sequences - for prodn. of transgenic plants recombinant proteins, useful as sweeteners, partic. in foods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYHA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                  147
                                                                                                                                                                                                                                                                                                                                                                                                                                              61 V----RC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87
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                                                                                                                                                                                                                                                                                                                                                                                             7
                                                                                                                                                                                                                                                                                                                                                                                                                                 ipavgrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qqrgpalrlccnqlrqvnkpcvcpvlrqaahqqlyqgqiegprqvrqlfraarnlpnick 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGEESERVAQRAG-EIVSSCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity
23; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UNIV HAWAII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hu Z,
                                                                                                                                                                                                                                                                    non-conserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fig 3; 38pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                        63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA;
                                                                                             /note=
171
                                                                                                                                                                    /note= "small subùnit"
85.,170
                                                                                                                                            /note= "large subunit"
1..38
                                                                                                                     /note= "signal
75..84
                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29.8%;
                                                                                                        "linker excised as protein folds"
                                                                                 "excised at protein maturity"
                                                                                                                                                                                                                                                                   DNA; assembly;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xiong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 106.5; DB Pred. No. 3e-05;
                                                                                                                               peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                    crude; degenerate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
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22-OCT-1993;

93WO-US10090

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RESULT AAX'4926 ID AAX'4926 ID AAX'4926 AAX'4926 AAX'4 SXX Bras KW 119h KW napi KW napi KW napi KW napi KW phen XX DE Bras XX DE Bra
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
17-JAN-1985
25-JAN-1988
29-APR-1988
02-NOV-1988
09-JUL-1990
10-AUG-1993
07-JUN-1995
31-JUL-1986
26-MAY-1987
15-MAR-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence is that of a 2S seed storage protein with increased lysine content. The protein is synthesised from a set of partial DNA sequences capable of being assembled in a complementary overlapping relationship to provide the complete DNA. The protein is translated as the straight chain shown and undergoes post translational modification to give the mature protein which has two subunits joined by
                                                                                                                                                                                                                                                                                    07-MAR-1997;
                                                                                                                                                                                                                                                                                                                                  09-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                          Brassica campestris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Brassica; regulation; developm light promoter; seed promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Brassica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY49926;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              with
                                                                                                                                                                                                                                                                                                                                                                              US5981839-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phenotype; modification.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY49926 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig 1; 33pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1994-167470/20.
N-PSDB; AAQ63710.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Improving the content of an amino acid in a to enhance nutritional value - by replacing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        di-sulphide bond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQESQQLQQCCNQVKQVRDECQCE----AIKYIAEDQIQQGQLHGEES--ERVAQRAGEI 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pkvcdi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSSCGV 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA encoding the amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qqrppllqkcceqlkqmqsqcvcptlkgaskavkqeeqqqgqqqqkqqmvrkiyktakhl 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              soybean;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
20; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIONEER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      campestris lambda-CGN1-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            171 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                   88US-0267865
90US-0550804
93US-0105852
95US-0484941
86US-0891529
87US-0054369
87US-0078538
                                                                                                                                                                                       85US-0692605.
88US-0147781.
88US-0188361.
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                                                                                                                                                                                                                                                                                    97US-0812665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rapeseed; cotton;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HI-BRED INT INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  development; identification; screening;
promoter; fruit promoter; regulatory reg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 98; DB 15;
Pred. No. 0.00037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            uit promoter; regulato;
safflower; sunflower;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      napin protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 non-conserved DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seed storage protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regulatory region;
unflower; expression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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AAR14193
ID AAR1
\begin{array}{c} \mathbf{X} \\ \mathbf{
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
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Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                            14-NOV-1990;
16-MAR-1990;
13-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21-MAY-1990;
14-SEP-1990;
08-AUG-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          plants with a DNA sequence of interest, comprising a promoter from a napin, EA9 or acyl carrier protein gene, a DNA sequence of interest and flanking T-DNA. The constructs can be used for the expression of heterologous genes in plants. They can be used for modifying the phenotype of plants. The DNA sequence of interest may encode an enzyme or may comprise an antisense sequence of interest may encode an enzyme plants such as soybean, rapeseed, cotton, safflower or sunflower. The present sequence represents the Brassica campestris lambda-CGNI-2 napin
                                                                         N-PSDB;
                                                                                                                 WPI; 1991-295627/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W09113972-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Desaturase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Napin 1-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR14193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR14193 standard; Protein; 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New genetic constructs useful sequence of interest -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
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                                                                                                                                                                                                                                                                   (CALG-) CALGENE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-DEC-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CALJ ) CALGENE LLC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-SEP-1991.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE---- 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              present invention describes genetic constructs (I) for transforming
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ritqtathlpracnir 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RVAQRAGEIVSSCGVR 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-012275/01
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity 27; Conserv
                                                                         AAQ13969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Fig 2; 65pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAZ35691
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          expression cassette;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                90US-0615784.
90US-0494106.
90US-0567373.
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90US-0582241.
91US-0742834.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s score 98; DB red. No. 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for transforming plants with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B. campestris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 21;
0.0004;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14;
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DNA encoding a plant desaturase - used for modifying the satd.

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RESULT 10
AAR54981
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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                                                                                                                                                                                                                                                     31-JUL-1986;
28-JUL-1987;
15-NOV-1989;
28-JAN-1992;
                                                           AAR54981 shows a Brassica napin protein, generated from lamda CGN1-clone. The napin gene promoter is regulated during seed maturation. This can be used to control the expression of an ACP in seed to enhance the production of seed oil and modulate the fatty acid composition. The DNA can also be used to prepare probes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          An expression construct contg. a plant desaturase suitable transformation is produced. 5' upstream and 3' downstream obtainable from the B. campestris napin gene here are used. See also AAQ13963-69.
                                                                                                                                               DNA encoding plant acyl carrier protein - of seed oil and to modulate the fatty acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                        Sequence
                                                                                                                            Disclosure; Fig 4E-4G;
                                                                                                                                                                                                                                  (CALJ ) CALGENE INC
                                                                                                                                                                                                                                                                                                          31-JUL-1986;
                                                                                                                                                                                                                                                                                                                              24-MAY-1994.
                                                                                                                                                                                                                                                                                                                                                                       Brassica
                                                                                                                                                                                                                                                                                                                                                                                            enhance seed oil
                                                                                                                                                                                                                                                                                                                                                                                                               Napin protein
                                                                                                                                                                                                                                                                                                                                                                                                                                     07-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR54981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR54981 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   fatty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 152 riyqtathlpracnir 167
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                                                                                                                                                                                          1994-166646/20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   L Similarity
27; Conserv
                                                                                                                                                                               AAQ65428.
                                                                                                                                                                                                                                                                                                                                                                       campestris.
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                                         184 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  compsn. of plant cells and plant seeds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fig 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                from Brassica
                                                                                                                                                                                                                                                     86US-0891529.
87US-0078924.
89US-0437764.
92US-0826696.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA.
                                                                                                                                                                                                                                                                                                          86US-0891529
                                                                                                                                                                                                                                                                                                                                                                                          production;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein;
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35.5%;
35
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                                                                                                                            28pp;
 . 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 96; DB
Pred. No. 0.00
12; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                               campestris
Score 96; Pred. No.
                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                          acyl carrier protein; ACP-I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A
                                                                                                                                                acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; DB 12;
. 0.0007;
 DB 15;
0.0007;
                                                                                                                                               used to enhance d compsn. of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 184
          Length 184;
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                                                                                                       lamda CGN1-2
                                                                                                                                                prodn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sequences
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AAR76694
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                                                                                              Query Match
Best Local S
                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                             28-JUL-1987;
25-JAN-1988;
08-AUG-1991;
                                                                                                                                                                              Clone lambda CGN1-2 was isolated by screening a partial genomic library of B. campestris DNA for napin-encoding clones. The entire CDS as well as extensive 5' and 3' sequences of the napin gene were sequenced (AAQ94586). An expression cassette was constructed from
                                                                                                                                                                                                                                                                     DNA providing seed specific gene transcription - includes a transcription initiator from a gene preferentially expressed in seed cells, e.g. the napin gene, also related expression casset
                                                                                                                                                                   sequenced (AAQ94586).
the 3'- and 5'-ends o
                                                                                                                                                                                                                                                                                                                                                                                                                              09-JUL-1990;
31-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-NOV-1995
                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                 N-PSDB; AAQ94586
                                                                                                                                                                                                                                                                                                                             WPI; 1995-206250/27.
                                                                                                                                                                                                                                                                                                                                                   Knauf
                                                                                                                                                                                                                                                                                                                                                                                                                                                               31-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US5420034-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Brassica campestris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    transgenic plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Napin; promoter; seed-specific gene transcription; oilseed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B. campestris napin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR76694;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAR76694 standard;
                                                                                                                                                                                                                                    Disclosure; Fig.2A-J; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                       (CALJ
152 riyqtathlpracnir 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 152 riyqtathlpracnir 167
                     47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        47
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                                           92
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                                                                                                                                                                                                                                                           Brassica plants.
                                                       QQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RVAORAGEIVSSCGVR 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qqqqpqqrppllqqccnelhqeeplcvcptlk gaskavkqqirqqqqqqqqqqqqqqqvis\\
                   RVAQRAGEIVSSCGVR 62
                                           qqqgpqqrppllqqccnelhqeeplcvcptlkgaskavkqqirqqqgqqmqgqqmqqvis
                                                                                                                                                                                                                                                                                                                                                  ۷C,
                                                                                                                                                                                                                                                                                                                                                                       ) CALGENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27;
                                                                                     ch 26.9%; similarity 35.5%; 27; Conservative 1
                                                                                                                                                                                                                                                                                                                                                  Kridl JC;
                                                                                                                                             184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                            90US-0550804.
86US-0891529.
87US-0078538.
88US-0147781.
91US-0742834.
                                                                                                                                                                                                                                                                                                                                                                       INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               86US-0891529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein;
                                                                                                                                                                  ). An expression cassette was co of the lambda CGN1-2 napin gene.
                                                                                      12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12;
                                                                                      Score 96; DB Pred. No. 0.00
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                                                                                                 96;
                                                                                      DB 16; 1
. 0.0007;
cches 23;
                                                                                                                                                                                                                                                                       related expression cassettes
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                                                                                                           Length 184;
                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                       14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14;
                                                                                       Gaps
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                                             151
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AAW15415
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                                                                                                      Matches
                                                                                                                               Query Match
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31-JUL-1986;
28-JUL-1987;
25-JAN-1988;
08-AUG-1991;
30-MAY-1995;
                                                                                                                                                                                                     where the gene is a napin gene, an acyl carrier protein gene or an EA9 gene. This construct may be used in the production of a Brassica plan which may be modified such that heterologous proteins are produced in the seeds, such as fatty acids, rat thioesterase, acyl ACP or
                                                                                                                                                                                                                                   (b) a DNA sequence of the gene; and (c) a transcriptional termination region; (c) a transcriptional termination region; an acyl c
                                                                                                                                                                                                                                                                                                 of the invention. The DNA construct comprises, in the 5' direction of transcription:
(a) a transcriptional initiation region from a gene that product preferentially expressed in a plant seed cell as other plant cells;
                                                                                                                                                                                                                                                                                                                                                The sequences given in AAW15415-17 represent proteins encoded by DNA fragments which were used in the construction of the DNA construct of the invention. The DNA construct comprises, in the 5' to 3'
                                                                                                                                                                                                                                                                                                                                                                                                                               Transgenic Brassica plant and seeds - contain DNA construct for seed specific expression of heterologous proteins
                                                                                                                                                                      Sequence
                                                                                                                                                                                              phospholipid acyl desaturase.
                                                                                                                                                                                                                                                                                                                                                                                                        Example 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1997-164560/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Knauf VC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US5608152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brassica campestris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plant seed cell; napin gene; acyl carrier protein gene; Brassica; fatty acid; rat thioesterase; acyl ACP; phospholipid acyl desaturase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-JUN-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW15415 standard; Protein; 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CALJ ) CALGENE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Napin
 152
                         47
                                                   92
                                                                                                                    Local
                                                                             سر
                                                               QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
riyqtathlpracnir 167
                         RVAQRAGEIVSSCGVR 62
                                                qqqgpqqrppllqqccnelhqeeplcvcptlkgaskavkqqirqqqgqqmqgqqmqqqvis 151
                                                                                                                                                                                                                                                                                     plant cells;
DNA sequence of interest other than the native coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             encoded
                                                                                                     l Similarity
27; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                     Column 23-28; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kridl JC;
                                                                                                                                                                      184 AA;
                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90US-0550804.
86US-0891529.
87US-0078538.
88US-0147781.
91US-0742834.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            by clone gamma-ACGN1-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95US-0453924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86US-0891529
                                                                                                                26.9%;
35.5%;
                                                                                                     12;
                                                                                                  Score 96; DB 1
Pred. No. 0.000
12; Mismatches
                                                                                                                               DB 18;
                                                                                             ער
ט. 0007;
23;
                                                                                                                            Length 184;
                                                                                                     Indels
                                                                                                                                                                                                                                                                                                             compared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EA9
                                                                                                     14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene;
                                                                                                  Gaps
                                                                           46
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RESULT 13
AAW30526
                                        screening. The regulatory regions (and T-DNA and Ti or Ri plasmids) are manipulated for use with foreign sequences for introduction into plant cells to provide transformed plants having a phenotypic property that can be modulated. The invention is exemplified with light, seed and fruit-specific promoters. Also claimed are methods for altering the phenotype of fruit tissue as distinct to other plant tissue, modifying the genotype of a plant to impart a desired characteristic to fruit, modifying transcription in fruit tissue, and expressing a heterologous DNA sequence of interest specifically in fruit tissue. The method provides transformation without gall formation in plants which have historically not been Agrobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-JUL-1986;
26-MAY-1987;
28-JUL-1987;
25-JAN-1988;
15-MAR-1988;
                                                                                                                                                                                                                 This is the napin seed storage protein of Brassica campestris, encoded by genomic DNA in clone lambda CGN1-2 (see AAV36968). The promoter region of the napin gene can be used in a novel method for producing a plant with a regulatable phenotype. In this method, regulatory regions from plant genes expressed during a particular developmental stage or in a specific tissue are identified by cDNA developmental stage or in a specific firsue are identified by cDNA
                                                                                                                                                                                                                                                                                                                                                            Transformation of plants - with regulatory sequence containing constructs for tissue specific expression of genes % \left( 1\right) =\left\{ 1\right\} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Brassica campestris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Transgenic plant; tissue-specific gene expression; napin gene;
Sequence
                                                                                                                                                                                                                                                                                                                                Example 3; Fig 2E-G; 67pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAV36968
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Houck
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-SEP-1990;
08-AUG-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-AUG-1993;
17-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US5753475-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brassica campestris napin seed storage protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW30526 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-APR-1988;
02-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CALJ ) CALGENE INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-MAY-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                             1998-311403/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ÇK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seed storage protein.
184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87US-0054369.

87US-0078538.

88US-0147781.

88US-0168190.

88US-0168361.

88US-0267685.

90US-0526123.

90US-0582241.

91US-0742834.
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86US-0891529
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
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Query Match Best Local Similarity Thehes 27; Conserve

Conservative

12;

26.9%;

Score 96; I Pred. No. 0. Mismatches

DB 19; .0007

Length 184; Indels

14;

Gaps

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB85931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                              region from a Brassica plant gene, a DNA sequence of interest other than the native coding sequence, and a transcription region. The method is useful for obtaining plants having modified phenotype or for altering the phenotype of a plant seed or tissue. The DNA constructs are used in manipulating plant cells to provide for regulated transcription, such as light inducible transcription, in a plant tissue or plant part of interest at particular stages of plant growth or in response to external control. These constructs are also used for modulation of expression of endogenous products as well as production of exogenous products in the seed. The present sequence represents the amino acid sequence of B. campestris lambdaCGN1-2 mane workers.
                                                                                                                                                                                                        The invention provides a method for obtaining a plant which produces at least one seed having a modified phenotype. The method involves transforming a host plant cell with a DNA construct which consists of operably linked components in the direction of transcription, a promot operably linked components in the direction of transcription, a promot
                                                                                                                                                                                                                                                                                                                                     Obtaining a plant that produces a seed with a modified phenotype or altering a seed phenotype, comprises transforming a plant cell with a altering a seed phenotype, comprises transforming a plant cell with a DNA construct consisting of operably linked components in the direction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-MAR-1997;
                                                                                                                                                                                                                                                                                         Example 3; Fig 2A-L; 68pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Knauf VC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-JUL-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-AUG-1993;
07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-APR-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brassica campestris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Napin gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B. campestris lambdaCGN1-2 gene product sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-MAR-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-MAY-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-NOV-1988;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-AUG-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB85931 standard; Protein; 184
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                                                                                                                                                                                                                                                                                                                           transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RVAQRAGEIVSSCGVR 62
                                                                                                                                                                                                                                                                                                                                                                                                                     2001-564354/63.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qqqgpqqrppllqqccnelhqeeplcvcptlkgaskavkqqirqqqqqqqqqqqqqqqvis 151
                                                                                                                                                                                                                                                                                                                                                                                                        AAH47378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CALGENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kridl JC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87US-0054369.
87US-0078538.
88US-0147781.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88US-0188361.
88US-0267685.
93US-0105852.
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86US-0891529.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Brassica; phenotype; transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
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Sequence

184

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47

RVAQRAGEIVSSCGVR

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RESULT 3
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                                                                 Query Match
Best Local :
                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                       A BglII-partial genomic library of B.campestris DNA was probed for napin-contg. clones using an XhoI/SalI fragment of the cDNA clone BES (AAN81445). Sequences coding for plant ACP can be used as probes for detecting the presence of ACP genes, for screening libraries from plants and bacteria and for use in assays for detecting presence of ACP genes. The coding sequences can be used in the prepn. of expression constructs, eg with a transcription initiation region which is functional in a plant and regulated so as to provide expression in seed. In this manner, the prodn. of seed oil can be enhanced and, as appropriate, the fatty acid
                                                                                                                                                                                                                                                                                                               cDNA sequence coding for plant acyl carrier protein - used for detection and prepn. of expression constructs prodn. of seed oil
                                                                                                                                                                                                                                                                                       Disclosure; 6; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                   WPI; 1988-030570/05.
N-PSDB; AAN81445, AAN81446.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-JUL-1987;
01-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence encoded by Brassica campestris cDNA clone BE5 contg.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAP81140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAP81140 standard; protein;
                                                                                                                     Sequence
                                                                                                                                               compsn.
                                                                                                                                                                                                                                                                                                                                                                                                           Kridl JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-JUL-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-FEB-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP255377-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brassica campestris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Probe; seed oil fatty acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-DEC-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                   (CALG-) CALGENE INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152 riyqtathlpracnir 167
  97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
qqqgpqqrppllqqccnelhqeeplcvcptlkgaskavkqqirqqqgqqmqgqqmqqvis 156
                           QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qqqgpqqrppllqqccnelhqeeplcvcptlkgaskavkqqirqqqqqqqqqqqqqqqqvis 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27;
                                                      27;
                                                                 Similarity
                                                                                                                                                modulated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                      189
                                                                                                                                                                                                                                                                                                                                                                                                         Knauf VC
                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
                                                                                                                     ΑĄ;
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86US-0891529
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                                  26.9%;
35.5%;
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35.5%;
                                                      12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         composition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                   Score 96; DB 9; L
Pred. No. 0.00072;
.2; Mismatches 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 96;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.0007
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        seed storage protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22;
                                                                            Length 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 184;
                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                      14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   napin gene
                                                     Gaps
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Run

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Minimum
Maximum
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            107
106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
      63.55655744
63.55655562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seq
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1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*

4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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US-08-190-802A-29
US-08-190-802A-29
US-08-216-846-2
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US-08-245-688-4
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                    sequence
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                                                                                                                                      US-08-453-924-3
                                                                                                                                                                                                                                                                                                                                                                                                                                              ; MOLECULE TYPE: protein US-08-670-186-4
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                                                                                                Sequence 3, Application US/08453924 Patent No. 5608152
                                                                                                                                                                                                                                                                                                                                                         Matches
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Best Local Similarity
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                                       GENERAL INFORMATION:
APPLICANT: Kridl, Jean C.
APPLICANT: Knauf, Vic C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
US/08/670,186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 29,959
REFERENCE/DOCKET NUMBER: 23
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
NUMBER OF SEQUENCES:
       TITLE OF INVENTION: Seed-Specific Transcriptional Regulation NUMBER OF SEQUENCES: 17
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ATTORNEY/AGENT INFORMATION:
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APPLICANT: CHEN, HANG
TITLE OF INVENTION: RECOMBINANT SWEET PROTEIN MABINLIN
NUMBER OF SEQUENCES: 10
                                                                                                                                                                                                            147 IPAVGRC 153
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
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TELEX: 90-4030 MRSNFOERSWSH
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                                                                                                                                                                              Sequence 2, Application US/08618911
                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (415) 854-37 INFORMATION FOR SEQ ID NO:
       APPLICANT: Coughlan, Sean
APPLICANT: Hu, David
TITLE OF INVENTION: ALTERATION OF AMINO
TITLE OF INVENTION: SEEDS
NUMBER OF SEQUENCES: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION: NAME: Rae-Venter, Barbar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 07/076
FILING DATE: 28-JULY-1987
PRIOR APPLICATION NUMBER: 06/891
FILING DATE: 31-JULY-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/742,834
FILING DATE: 08-AUGUST-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/550,804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: PatentIn Relicurrent APPLICATION DATA:
APPLICATION NUMBER: US
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ADDRESSEE: Weil, Gotshal & Manges
STREET: 2882 Sand Hill Road, Ste.
                                                                                                       APPLICANT:
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APPLICATION NUMBER:
FILING DATE: 25-JANU
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                     152 RIYQTATHLPRACNIR 167
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                                                                                                                                                                                                                                                                                                                                        92 QQQGPQQRPPLLQQCCNELHQEEPLCVCPTLKGASKAVKQQIRQQQGQQMQGQQMQQVIS 151
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CITY: Menlo Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: CGNE-037/04US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                1 QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE---- 46
                                                                                                                                                                                                                                                                                                                                                                                                               ol Similarity 27; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
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                                                                               Jung, Rudolf
Hastings, Craig
Coughlan, Sean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         184 amino acids
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28-JULY-1987
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35.5%;
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                                                       ACID COMPOSITIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 184
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STREET: //
STREET: //
OTTY: Des Moines

ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC. STREET: 700 Capital Square, 400 Locust Street

COUNTRY:

USA

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Best Local
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 155 amino acids
                                                                SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION UNBER: US/08/618,911
FILING DATE: Concurrently herewith
ATTORNEY/AGENT INFORMATION:
NAME: STIPPE SCHOOL
                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC
STREET: 700 Capital Square, 400 Locust Street
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FILING DATE: CONCURRENTLY herewit
ATTORNEY/AGENT INFORMATION:
NAME: Simon, Soma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: HO, DAVID
TITLE OF INVENTION: ACID COMPOSITIONS IN
TITLE OF INVENTION: SEEDS
NUMBER OF SEQUENCES: 13
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TELECOMMUNICATION INFORMATION:
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ZIP: 50309
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REGISTRATION NUMBER: 37,444
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16; Conservative
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Coughlan, Sean
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SYSTEM: PC-DOS/MS-DOS
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                                                                 Query Match
Best Local Similarity
Matches 17; Conserv
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INFORMATION FOR SEQ
                                                                                                                                                                                                                                                               TELEPHONE: (202) 887-1500
TELEFAX: (202) 822-0168
TELEX: 90-4030 MRSNFOERSWSH
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICAME: CHEN, HANG
APPLICAME: CHEN, HANG
TITLE OF INVENTION: RECOMBINANT SWEET PROTEIN MABINLIN
NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
ADDRESSEE: MORRISON & FOERSTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION:
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LENGTH: 158 amino acids
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TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
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83 QPRRPALRQCCNQLRQVDRPCVCPVLRQAAQQVLQRQIIQGPQQLRRLFDAARNLPNICN 142
                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                               TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE: 21-JUN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              V Match 25.4%; Score 90.5; DB 2; Local Similarity 25.4%; Pred. No. 0.00037; hes 15; Conservative 24; Mismatches 17
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                                                                                                                                                                                                                                                                                                                                                                                                  NAME: MURASHIGE, KATE REGISTRATION NUMBER: 2
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                                                                                                                                                                                                                                               LENGTH:
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                                   QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHG-EESERVAQRAGEIVSSCG 60
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                                                                                                                                                                                                                           amino acid
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                                                                                                                                                                                                                                               155 amino acids
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                                                                           Conservative
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--- NO: 6:
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                                                                         24.2%; Score 86.5; DB 2; 27.9%; Pred. No. 0.0012; tive 15; Mismatches 28;
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                                                                                                                                                                                                                                                                                                                                                                                                  29,959
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                                                                                                            Length 155;
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                                                                                                                                                               Sequence 2, Application US/08938675A Patent No. 6107287 GENERAL INFORMATION:
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APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/518,911
                                                                                NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                              APPLICANT: de Lumen, Benito O.
APPLICANT: Galvez, Alfredo F.
TITLE OF INVENTION: Lunasin Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 36
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: Concurrentl ATTORNEY/AGENT INFORMATION: NAME: Simon, Soma
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                                                 STREET:
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                                    CITY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U
ZIP: 50309
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CQUNTRY:
                                                                  ADDRESSEE:
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                                   HILLSBOROUGH
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                 CALIFORNIA
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                                               2: SCIENCE & TECHNOLOGY LAW GROUP
75 DENISE DRIVE
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Coughlan, Sean
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(515) 248-4844
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                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                     23.4%; Score 83.5; DB 2 23.7%; Pred. No. 0.0028;
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; MOLECULE TYPE:
US-08-938-675A-2
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US-08-991-300-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2,
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (650) 343-434 INFORMATION FOR SEQ ID NO:
                                                   FILING DATE: 16-DEC-1997
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: IT MI 96/A 002663
FILING DATE: 19-DEC-1996
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                    CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: CARDELLI TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: OSMAN, RICHARD A
REGISTRATION NUMBER: 36,627
REFERENCE/DOCKET.NUMBER: B9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
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TELECOMMUNICATION INFORMATION:
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                                 NAME: OBLON, NORMAN F. REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                   STREET: 1755 S. CITY: ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT ADDRESSEE: P.C. STREET: 1755 S. JEFFERSON DAVIS HIGHWAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                 COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                         STATE:
             REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88 EEEEGHMQKCCTEMSELRSPKCQCKALQKIMENQSE - - ELEEKQKKKMEKELINLATMC 144
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
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VENTION: ISOLATION AND CHARACTERIZATION OF A GENE
VENTION: ENCODING A LOW MOLECULAR WEIGHT GLUTENIN
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MERCHITELLI, CINZIA
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TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:

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703-413-2220

703-413-3000

TELEPHONE:

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Best Local Similarity 32.8
Matches 21; Conservative
                                            Query Match
Best Local Similarity
                             Matches
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                                                                                                                                                                            TELEFAX: (617) 832-7000 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                              SOFTWARE: ASCII (text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 01-APR-199
CLASSIFICATION: 530
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ent No.
NERAL INFORMATION:
APPLICANT: Gyuris, Jeno
APPLICANT: Lamphere, Lou
APPLICANT: Draetta, Giulio
TITLE OF INVENTION: CdC37 Cell-Cyle Regulatory Protein,
OF INVENTION: and Uses Related Thereto
                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 832-1000
                                                                                                                   MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
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                                                                                                                                         TYPE: amino acid
                                                                                                                                                                                                                                                     NAME: Vincent, Matthew P.
REGISTRATION NUMBER: 36,709
REFERENCE/DOCKET NUMBER: MIV048.02
                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII (text)
                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: U
ZIP: 02109
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2 QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQG-----QLHGEESERVAQRAGEIV 56
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27.8%;
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                                           Score 73.5; DB Pred. No. 0.15;
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Pred. No. 0.13;
L2; Mismatches
                           Mismatches
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                                                     DB 1;
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                                                       Length 373;
                             Indels
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US-07-955-905A-23
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                                                                                                                                                                                           Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 18; Conserva
                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Kakizuka
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 21-JAN-19
CLASSIFICATION: 435
INFORMATION FOR SEQ ID NO:
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                      NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 587 amino acids
                                                                                                                                                                          TITLE OF INVENTION: Disease Gene and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES:
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                                                                STREET: 1 WC
CITY: Lexington
Massachus
                                                                                                                                                                                                                                                                                                                                                                    143 CVAECRER 150
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: Protein LOCATION: 1..587
OTHER INFORMATION: /note= "Vicilin from G. hirsutum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            44
                                                                                                                                                                                                                                                                                                                                                                                                  55 IVSSCGVR 62
                                                                                                                                                                                                                                                                                                                                                                                                                                      83 QRRYEECQQECRQQEERQRPQCQQRCIKRFEQQQQQQQQRQFQECQQHCHQQEQRPERKQQ 142
                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER:
                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 QQQESQQLQQCCNQVKQVRDECQCEAIKYI-----AEDQIQQGQLHGEESERVAQRAGE 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QKEKEELDRGCRECKRKVAECQ----RKLKELEVAEGGKAELERLQAESTAAAQGGAELG 99
                                  02173-4799
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino acid
)GY: linear
                                                                    Massachusetts
                                                                                                    E: Hamilton, Brook, Smith & Reynolds, P.C. Two Militia Drive
                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                             Kakizuka, Akira
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19.9%; Score 71; DB 1; 26.5%; Pred. No. 0.54;
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                                                                                                                                                                                                           DNA Sequence Encoding the Machado-Joseph
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29; Indels
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1;

CURRENT APPLICATION DATA:

PatentIn

Release #1.0, Version #1.30

APPLICATION NUMBER:

COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS

FILING DATE:

21-SEP-1995

US/08/531,927B

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence 13, Application US/09041886 Patent No. 6235872
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
TELEFAX: (619) 535-8949
NFORMATION FOR SEQ ID NO:
                                                NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31.815
REFERENCE/DOCKET NUMBER: P-LJ 2626
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                        SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 21-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP H6-251600
FILING DATE: 21-SEP-1994
                                                                                                      ATTORNEY/AGENT INFORMATION: NAME: Campbell, Cathryn
                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           341 DLGKAC 346
                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Palan-
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                                  TELEPHONE:
                                                                                                                                      CLASSIFICATION:
                                                                                                                                                      FILING DATE:
                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                               STREET: 4370 La
CITY: San Diego
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: ATH95-01A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                               California
                                                                                                                                                                                                                                                                                                                                                             E: Campbell & Flores LLP 4370 La Jolla Village Drive, Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360 amino acids
                                                                                                                                                                                                                                                                                                             United States
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                                     (619)
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                                                                                                                                                                      US/09/041,886
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Pred. No. 1.3;
8; Mismatches 2
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Matches

Conservative

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Mismatches

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GENERAL INFORMATION:
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            Query Match
Best Local S
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Best Local Similarity
                                                                                                                                                TELEFAX: (703) 413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Oblon, NO. 5773243man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1126-
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
LENGTH: 360 amino acid
                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA: APPLICATION NUMBER: US
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                                                                                          MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  341 DLGKAC 346
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                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 0 FILING DATE: 07-APR-1993
                                                                                                       TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
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                                                                                                                                                                                                              TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                  LENGTH:
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1 Similarity
12; Conser
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                                                                                                                                     1642 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FRITZINGER, DAVID C. BREDEHORST, REINHARD VOGEL, CARL-WILHELM
                                                                                                                                                                                                                                                                                                                                                                                                                PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                (703) 413-3000
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                                                                                       protein
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            18.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SPIVAK, McCLELLAND, MAIER & NEUSTADT
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                                                                                                                                                                                                                                              1126-101-0
            Score 65;
Pred. No.
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Pred. No.
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                            DB 1; Length 1642;
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: SIBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/662,227
FILING DATE: 14-JUN-1996
CLASSIFICATION: 1100RWATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24.618
REFERENCE/DOCKET NUMBER: 1126-0107-0X
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEPAX: 703-413-3200
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1642 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
Search completed: September Job time: 235 sec
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US-08-662-227-2
; Sequence 2, Application US/08662227
; Patent No. 5922320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                           Query Match 18.2%; Score 65; DB 2; Length 1642; Best Local Similarity 41.4%; Pred. No. 11; Matches 12; Conservative 6; Mismatches 11; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:

APPLICANT: VOCSEL, CARL-WILHELM
APPLICANT: BREDEHORST, REINHORST
APPLICANT: BREDEHORST, REINHORST
APPLICANT: FRITZINGER, DAVID
TITLE OF INVENTION: RECOMBINANT PROCVE
NUMBER OF SEQUENCES: 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
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                                                                                                                                10 QCCNQVKQVRDECQCEAIKYIAEDQIQQG 38 :|| :| || || || : ::| | : |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: OBLUM, ADDRESSEE: P.C.
ADDRESSEE: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: UP
ZIP: 22202
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                    9, 2002, 12:44:13
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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq
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Perfect score:
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ALIGNMENTS

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Odani S., Kolde T., Ono T., Obnishi K.; "Structural relationship between barley (Hordeum vulgare) trypsin inhibitor and castor-bean (Ricinus communis) storage protein."; Biochem. J. 213:543-545(1983). -!- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN!- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND A LARGE CHAIN LINKED BY 2 DISULFIDE BONDS!- PTM: THE TWO DISULFIDE BONDS!- PTM: THE TWO DISULFIDE BONDS!- SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS FAMILY. This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/	SEQUENCE FROM N.A. SEQUENCE FROM N.A. TISSUE-Endosperm; MEDLINE-91016940; PubMed=2216785; Irwin S.D., Lord J.M.; "Nuclectide sequence of a Ricinus communis 2S albumin precursor gene."; Nucleic Acids Res. 18:5890-5890(1990). [3] SEQUENCE OF 157-190 AND 194-258. MEDLINE-83082772; PubMed=7174664; SHATIOF F.S., Li S.SL.; "Amino acid sequence of small and large subunits of seed storage protein from Ricinus communis."; J. Biol. Chem. 257:14753-14759(1982). [4] SIMILARITY TO PROTEINASE INHIBITORS.	21-JUL-1986 (Rel. 01, Created) 01-NOV-1990 (Rel. 16, Last sequence update) 16-OCT-2001 (Rel. 40, Last sequence update) 25 albumin precursor (Allergen Ric c 1). Ricinus communis (Castor bean). Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I; Malpighiales; Euphorbiaceae; Ricinus. NCBL_TAXID-3988; [1] SEQUENCE FROM N.A. TISSUE-Endosperm; MEDLINE-91109729; PubMed=2274038; IIWIN S.D., Keen J.N., Findlay J.B.C., Lord J.M.; ITWIN S.D., Keen J.N., Findlay J.B.C., Lord J.M.; Mol. Gen. Genet. 222:400-408(1990).	LT 1 RICCO 2SS_RICCO STANDAR P01089;

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01-APR-1990 (Rel. 14, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
2S seed storage protein 1 precursor (2S albumin (NWMU2-2S albumin 1).
AT2S1 OR AT4627140 OR T24A18.90.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryoph Spermatophyta; Magnoliophyta; endicotyledons; constructions of the second streptophyta; endicotyledons of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROPEP
               Mayer K.F.X., Schueller C., Wambutt R., Murphy G., Volckaert G.
Pohl T., Duesterhoeft A., Stlekema W., Entlan K.-D., Terryn N.,
Harris B., Ansorge W., Brandt P., Grivell L.A., Rieger M.,
Weichselgartner M., de Simone V., Obermaier B., Mache R., Muell
Kreis M., Delseny M., Puigdomenech P., Watson M., Schmidtheini
Reichert B., Portetelle D., Perez-Alonso M., Boutry M., Bancrof
Vos P., Hoheisel J., Zimmermann W., Wedler H., Ridley P.,
Langham S.-A., McCullagh B., Bilham L., Robben J.,
Van der Schueren J., Grymonprez B., Chuang Y.-J., Vandenbussche
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; X06410; CAA29699.1; -.

PIR; S01062; S01062.
InterPro; IPR0013612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 2.

SMART; SM00499; AAI; 2.
Seed storage protein; Albumin; Signal; Mul
                                                                                                                                                                                                               STRAIN=CV. COLUMBIA;
MEDLINE=20083488; PubMed=10617198;
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Vandekerckhove J.;
"Determination of the processing and characterization of the comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.,
STRAIN=CV. C24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2SS1_ARATH P15457;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ARATH
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                                                                                                                                                                                                                                                            SEQUENCE FROM N.A
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                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Krebbers E., Herdies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=3702;
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23; Conserv
                                                                                                                                                                                                                                                                                                    A.D.S., Krebbers I
(JUL-1993) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E., Herdies L.,
J., Segura M.,
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31.1%;
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Last annotation update)
in 1 precursor (2S albumin storage
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e EMBL/GenBank/DDBJ databases
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Pred. No. 4.8e
22; Mismatches
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POTENTIAL.
2S SEED ST
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8958A106805142A1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Signal; Multigene family.
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1. No. 4.8e-06;
1. matches 19;
    Bastiaens
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    J.,
J., Vandenbussche
  Aert
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                                                                                    Bancroft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein)
                                                                                  , Mueller M.,
theini T.,
Bancroft I.,
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Holzer E., Brandt A., Peters S., van Staveren M., Dirkse W., Mooijman P., Klein Lankhorst R., Rose M., Hauf J., Koetter P.,

Ramsperger U., Hilbert H.,

Braun M.,

Η.,

Weitzenegger T., Bothe

Brandt A., Peters

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RA Berneiser S., Hempel S., Feldpausch M., Lamberth S., Van den Daele H., RA De Keyser A., Buysshaert C., Gielen J., Villarroel R., De Clercq R., RA Van Montagu M., Rogers J., Cronin A., Quail M., Bray-Allen S., RA Van Montagu M., Rogers J., Cronin A., Quail M., Bray-Allen S., RA Van Montagu M., Rogers J., Cronin A., Lenard N., McLay K., Mayes R., RA Clark L., Doggett J., Hall S., Kay W., Lenard N., McLay K., Mayes R., RA Borkova D., Bloecker H., Scharfe M., Benes V., Rechmann S., RA Pettett A., Rajandream M.A., Lyne M., Benes V., Rechmann S., RA Dose S., de Haan M., Maarse A.C., Schaefer M., Mueller-Auer S., RA Gabel C., Fuchs M., Fartmann B., Granderath K., Dauner D., Herzl A., RA Cherkova D., Hiller R., Schmidt W., Lecharny A., Aubourg S., RA Schnabl S., Hiller R., Schmidt W., Lecharny A., Aubourg S., Cheidor F., Cooke R., Berger C., Monfort A., Casacuberta E., RA Chibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A., RA Perez-Perez A., Purnelle B., Bent E., Johnson S., Tacon D., Jesse T., RA Heijnen L., Schwarz S., Scholler P., Harmon G., Trancs P., Bielke C., RA Frishman D., Hasse D., Lemcke K., Mewes H.-W., Stocker S., Bieke C., RA Frishman D., Hasse D., Lemcke K., Mewes H.-W., Stocker S., Bieke C., RA Frishman D., Kalicki J., Graves T., Harmon G., Edwards J., Schotz K., Huang E., Spiegel L., RA Latreille P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D., RA Minx P., Bentley D., Fulton B., Miller N., Greco T., Kemp K., RA Latreille P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D., RA Minx P., Bentley D., Fulton B., Miller N., Greco T., Kemp K., RA Latreille P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D., RA Minx P., Bentley D., Fulton B., Miller N., Greco T., Kemp K., RA Latreille P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D., RA Minx P., Berghoff A., Jones K., Lemar B., Yordan C., RA Martiensey A., Rodriguez M., Hoffman J., Till S., RA Chen E., Marca M., Martiensey A., Rodriguez M., Hoffman J., Johnson A., McCenbie W.R., Fabel M., Rodriguez M., H
                                                                                    PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                                                           EMBL; M22032; AAA32743.1; --
EMBL; M22032; AAA0870.1; --
EMBL; A13820; CAA01132.1; --
EMBL; AL035680; CAB38844.1;
EMBL; AL161566; CAB79569.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outsithe European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nature 402:769-777(1999).

-!- EUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-!- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND A LARGE CHAIN
LINKED BY DISULFIDE BONDS.
-!- MISCELLANBOUS: THIS IS THE MOST ABUNDANT ISOFORM OF 2S ALBUMIN IN
                                                                                                                                                     Seed
                                                                                                                                                                                                                                Pfam; PF00234; tryp_alpha_amyl; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
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                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                         InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                                                   InterPro; IPR003612; AAI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entities requires a
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                                                                                                                                                                                                                                                                                                                       JA0161; NWMU1.
S34676; S34676.
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                                                                                                                                                  storage
                                                                                                                                                                    ; PR00496; NAPIN.
; PD002498; Napin; 1.
SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       an email to license@isb-sib.ch).
  64
                                                                                                                                                protein;
  AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           license agreement (See http://www.isb-sib.ch/announce/
19014 MW;
                                                                                                                                                Albumin; Signal; Multigene family
                                                                                  2s
                                            28
2BF28CB474D9832B CRC64;
                                            SEED
                                                                                    SEED
                                        STORAGE PROTEIN 1
                                                                                STORAGE PROTEIN 1 SMALL SUBUNIT
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                                          LARGE SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and for
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2SS4_CAPMA
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16-OCT-2001 (Rel. 40, Last annotation update)
Mabinlin IV, A and B chains (MAB IV) (Sweet protein).
Capparis masaikai (Mabinlang).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Capparis.
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ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
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-!- SIMILARITY: BELONGS TO THE InterPro; IPR003612; AAI: InterPro; IPR000617; Napin. Pfam; PF01631; Seedstore_2S; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      replacement of a single amino acid residue.";
Eur. J. Biochem. 223:989-995(1994).
-i- FUNCTION: HEAT STABLE 25 SEED STORAGE PRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z., Ku "Structures of heat-stable and unstable homologues of the protein mabinin. The difference in the heat stability is
                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_CONS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- SUBUNIT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=13395;
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IPAVGRC
                                                                                                                                  QQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHG-EESERVAQRAGEIVSSCG
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                                                                                        EQRGPALRLCCNQLRQVNKPCVCPVLRQAAHQQLYQGQIEGPRQVRRLFRAARNLPNICK 88
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                                                                                                                                                                                Similarity 31.:
21; Conservative
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                                                                                                                                                                                                                                                                                                      AA;
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                                                                                                                                                                                Score 104.5; DB 1;
Pred. No. 0.00022;
4; Mismatches 27;
                                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                    MABINLIN IV,
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                                                                                                                                                                                                                                                                                                      7B09673FAB7793CA CRC64;
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.6e-05;
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P80352;
01-FEB-1995
01-FEB-1995
16-OCT-2001
                                                                                                                                                                           01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation updat
Mabinlin I-1, A and B chains (MAB I) (Sweet
Capparis masaikai (Mabinlang)
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16-OCT-2001 (Rel. 40, Last annotation update)
Mabiniin III, A and B chains (MAB III) (Sweet
Capparis masaikai (Mabinlang).
                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosiceurosids II; Brassicales; Brassicaceae; Capparis.
MEDLINE=94333405; PubMed=8055976;
                         TISSUE=Seed;
                                              SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PR00496; NAPIN.
ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR003612; AAI.
InterPro; IPR000617; Napin.
Pfam; PF01631; Seedstore_2S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=94333405; pubMed=8055976;
Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z., Kurihara
"Structures of heat-stable and unstable homologues of the sweet
protein mabinin. The difference in the heat stability is due to
replacement of a single amino acid residue.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eleurosids II; Brassicales; Brassicaceae; Capparis.
                                                                                      NCBI_TaxID=13395;
                                                                                                                                                                                                                                                                                                2SS1_CAPMA
P80351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -I- SUBUNIT: HETERODIMER OF A SMALL A AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Seed
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EUR. J. Biochem. 223:989-995(1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=13395;
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llarity 31.3%;
Conservative 1
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Pred. No. 0.00023;
.4; Mismatches 27;
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Matches 22
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01-OCT-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ITRY_SINAR P38057;
                                                                                                                                                                                                                                                                                   Svendsen I.B., Nicolova D., Goshev I., Genov N.;
"Primary structure, spectroscopic and inhibitory properties
chain trypsin inhibitor from the seeds of charlock (Sinapis
L), a member of the napin protein family.";
Int. J. Pept. Protein Res. 43:425-430(1994).
-!- FUNCTION: INLIBITS TRYPSIN WITH A KI OF 7 X 10(-6) M.
-!- SUBUNIT: THE PROTEIN CONSISTS OF TWO CHAINS LINKED BY DI
      SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sinapis arvensis (Charlock).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Sinapis.
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PRODOM; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z., "Structures of heat-stable and unstable homologues of the protein mabinlin. The difference in the heat stability replacement of a single amino acid residue."; Eur. J. Biochem. 223:989-995(1994).
   Seed storage protein; Multigene family; Polymorphism.
                                                          PRINTS; PR00496; NAPIN. ProDom; PD002498; Napin
                                                                                                                           Pfam; PF01631; Seedstore_2S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=29728;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Trypsin inhibitor (TISA)
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-!- SUBUNIT: HETERODIMER OF A SMALL A AND A I
                                                                                                                                                        InterPro; IPR003612; AAI.
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=94350545; PubMed=8070965;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IISSUE=Seed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE.
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Best Local
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01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
25 seed storage protein 3 precursor (25 albumin (NWMU2-25 albumin 3).
AT253 OR AT4627160 OR T24A18.110.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryop Spermatophyta; Maggoliophyta; endicotyledons; or approach of the control of the control
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"Determination of the processing sites of and characterization of the complete gene plant Physiol. 87:859-866(1988).
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RA Langham S.-A., McCullagh B., Bilham L., Robben J.,

RA Langham S.-A., McCullagh B., Bilham L., Robben J.,

RA Wan der Schweren J., Grymonprez B., Chuang Y.-J., Vandenbussche F.,

RA Braeken M., Weltjens I., Voet M., Bastiaens I., Aert R., Defoor E.,

RA Holzer E., Brandt A., Peters S., van Staveren M., Dirkse W.,

RA Holzer E., Brandt A., Peters S., van Staveren M., Dirkse M.,

RA Mocijman P., Klein Lankhorst R., Rose M., Hauf J., Koetter P.,

RA Bernelser S., Hempel S., Feldpausch M., Lamberth S., Van den Daele H.,

RA De Keyser A., Buysshaert C., Glelen J., Villarroel R., De Clercq R.,

RA Clark L., Doggett J., Hall S., Kay M., Lennard N., McLay K., Mayes R.,

RA Clark L., Doggett J., Hall S., Kay M., Lennard N., McLay K., Mayes R.,

RA Pettett A., Rajandream M.A., Lyne M., Benes V., Rechmann S.,

RA Petwa D., Bloecker H., Scharfe M., Grimm M., Lochnert T.-H.,

RA Dose S., de Haan M., Maarse A.C., Schaefer M., Meller-Auer S.,

RA Gabel C., Fuchs M., Fartmann B., Granderath K., Dauner D., Herzl A.,

RA Massenet O., Quigley F., Clabauld G., Muendlein A., Felber R.,

RA Massenet O., Quigley F., Clabauld G., Muendlein A., Felber R.,

RA Gibbons T., Weber N., Vandenbol M., Baryues M., Terol J., Torres A.,

RA Gibbons T., Weber N., Vandenbol M., Baryues M., Terol J., Torres A.,

RA Frishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,

RA Frishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,

RA Frishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,

RA Schon M., Murray J., Sheet P., Cordes M., Abu-Threideh J.,

RA Stonsking T., Kalicki J., Graves T., Harmon G., Edwards J.,

RA Stonsking T., Kalicki J., Graves T., Harmon G., Edwards J.,

RA Martielle P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D.,

RA Martielle D., Standiness T., Harmon G., Edwards J.,

RA Martielle D., Standiness T., Hange S., Yordan C.,

RA Martielle D., Standiness T., Harmon G., Edwards J.,

RA Martielle D., Standiness T., Hange M., Johnson A.,

RA Martielle D., Standiness M., Hange M., Johnson A.,

RA Martielle D., 
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EMBL; Z24744;
EMBL; AL035680
EMBL; AL161566
EMBL; Z17580;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RAYNAI M., Grellet F., Laudie M., Meyer Y., Cooke R., De Submitted (OCT-1992) to the EMBL/GenBank/DDBJ databases -:- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-:- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND LINKED BY DISULFIDE BONDS.
-:- SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS
                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long as modified and this statement is not removed. U
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 103-164 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nature 402:769-777(1999).
                                                                                                                                                       JA0163; NWMU3.
S34674; S34674.
                                                                                                                                                                                                                                                                                                                                                                                                            SWISS-PROT entry is copyright. It is produced through a sen the Swiss Institute of Bioinformatics and the EMBI
                                                                                                                                                                                           Z24744; CAA80868.1; -AL035680; CAB38846.1; AL161566; CAB79571.1; Z17580; CAA79001.1; -
                                                                                                                                                                                                                                                                                                                                  requires a license agreement
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TO THE 2S SEED STORAGE ALBUMINS FAMILY.
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InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR0001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00496; NAPIN.

ProDom; PD002498; Napin; 1. SMART; SM00499; AAI; 1.

storage

protein;

Albumin; Signal; Multigene family.

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01-MAR-1989 (Rel. 1
16-OCT-2001 (Rel. 4
Conglutin delta-2
                                                                                                                                                             DISULFID
DISULFID
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SEQUENCE
                                                                                                                                                                                                                                                                                             of Lupinus angustifolius L. Sequence homology with the amylase inhibitor from wheat.";
FEBS Lett. 195:236-2417-0005
                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-1989 (Rel. 10, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
Conglutin delta-2 large chain.
Lupinus angustifolius (Narrow-leaved blue lupine).
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Roside eurosids I, Fabales; Fabaceae; Papilionoideae; Genisteae; Lupinus.
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                                                                                                                                                                                                                                 SMART; SM00499;
                                                                                                                                                                                                                                                                                                                        Lilley G.G., Inglis A.S.; "Amino acid sequence of conglutin delta,
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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SUBUNIT: DIMER OF A SMALL
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                                                                      ESEESEELDQCCEQLNELNSQRCQCRALQQIYESQSE-
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Pred. No. 0.00
L1; Mismatches
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OR 17-65.
INTERCHAIN
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ACCOLOR REVISION ACCOLO
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EMBL; J02586; AAA32997.1; -.
EMBL; J02798; AAA67348.1; -.
PIR; A01329; NWRP2.
PIR; A29801; A29801.
PIR; A25997; A25997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   [2]
REVISIONS
                                                                                                                                             InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00496; NAPIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       the European Bloinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             from a precursor polypeptide.";
J. Mol. Appl. Genet. 2:273-283).
-I- FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPINS
TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Crouch M.L., Tenbarge K.M., Simon A.E., Ferl R.; "CDNA clones for Brassica napus seed storage proteins: evidence nucleotide sequence analysis that both subunits of napin are classical processing that both subunits of napin are classical process."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Josefsson
Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-JUL-1986 (Rel. 01, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
01-MG-1992 (Rel. 23, Last annotation update)
Napin 2 precursor (1.7S seed storage protein)
                                                    SIGNAL
                                                                                                   SMART;
                                                                                                                         ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-CV.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=87308224; PubMed=3624251;
Josefsson L.-G., Lenman M., Erics
"Structure of a gene encoding the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=3708;
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                                                                                                                                                                                                                                                                                                                                                                                                                                send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED IN THE SEED ITS MATURATION.
SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND A LARGE LINKED BY DISULFIDE BONDS.
TISSUE SPECIFICITY: COTYLEDONS AND THE AXIS.
SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS FAMILY.
                                                                          storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BRANA
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                                                                       protein;
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    21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            license agreement (See http://www.isb-sib.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J.,
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                                                                          Signal;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Usage
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EMBL; X17542; CAA35580.1; -.
EMBL; U04945; AAA81909.1; -.
PIR; S10018; S10018;
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                       Boutilier K.A., Gines M.J., Demoor J.M., Huang B., Baszczynski C.L., Iyer V.N., Miki B.L.; Easzczynski C.L. iyer V.N., Miki B.L.; Expression of the BnnNAP subfamily of napin genes induction of Brassica microspore embryogenesis."; Plant Mol. Biol. 26:1711-1723(1994).
-!- FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPIN
                                                                                           or send an
                                                                                                                     modified
                                                                                                                                                                                                                                                                                                                                            STRAIN=CV TOPAS;
MEDLINE=95161697; PubMed=7858212;
                                                                                                                                                                                                                                                                                                                                                                                                  Brassica napus napin gene.";
Plant Mol. Biol. 14:633-635(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=CV. WESTAR; TISSUE=Leaf; MEDLINE-9134654; PubMed=2102844; Baszczynski C.L., Fallis L.; "Isolation and nucleotide sequence Brassica napus napin gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eleurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Napin precursor (1.7S seed storage protein).
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TISSUE SPECIFICITY: COTYLEDONS AND THE SIMILARITY: BELONGS TO THE 2S SEED ST
                                                                                                                                                                                                                                                         FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPINS TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED 1
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                                                                                         requires a license agreement (Some an email to license@isb-sib.ch).
                                                                                                                 non-profit institutions as long and this statement is not removed.
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S -> N (IN REF. 4).
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STORAGE ALBUMINS
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Similarity 32. 23; Conservative

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Indels

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Gaps

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2 QQESQQLQQCCNQVKQVRDECQCEAIK---YIAEDQI-QQGQLHGEESE------RVAQ 50

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RESULT 12
ALLI_BRAJU STANDARD; PRT; 129 AA.
ALLI_BRAJU STANDARD; PRT; 129 AA.
AC P80207; P80215;
DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1993 (Rel. 27, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Allergen Bra j 1-E, small and large chains (Bra j I).
DE Allergen Bra j 1-E, small and large chains (Bra j I).
OS Brassica juncea (Leaf mustard) (Indian mustard).
OS Brassica juncea (Seaf mustard) (Indian mustard).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosida
OC eurosids II; Brassicales; Brassicaceae; Brassica.
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                                                                         VARIANT
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                                                                                                 NON_CONS
                                                                                                                                                                                                                                                                       MEDLINE=93356721; PubMed=7688955; Monsalve R.I., Gonzalez de la Pena M.A., Menendez-Arias L., Lopez-Otin C., Villalba M., Rodriguez R.; "Characterization of a new oriental-mustard (Brassica juncea) allergen, Bra j IE: detection of an allergenic epitope."; Biochem. J. 293:625-632(1993).
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PROPEP
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                                                                                                                                              ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                             -!- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-!- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SM
-!- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SM
-!- SIMILARITY: BELONGS TO THE 2S SEED STORAGE A
InterPro; IPRO03612; AAI.
InterPro; IPRO0617; Napin.
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                                                                                                                                  Allergen;
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Score 90.5; D
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10; Mismatches
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Pred. No. 0.00
9; Mismatches
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RESULT PERMIT OF THE PERMIT OF
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RA De Keyser A., Buysshaert C., Gielen J., Villarroel R., De Clercq R.,
RA Van Montagu M., Rogers J., Cronin A., Quail M., Bray-Allen S.,
RA Van Montagu M., Rogers J., Cronin A., Quail M., Bray-Allen S.,
RA Clark L., Doggett J., Hall S., Kay M., Lennard N., McLay K., Mayes R.,
RA Pettett A., Rajandream M.A., Lyne M., Benes V., Rechmann S.,
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RA Pettett A., Rajandream M.A., Lyne M., Benes V., Rechmann S.,
RA Pose S., de Haan M., Maarse A.C., Schaefer M., Mueller-Auer S.,
RA Gabel C., Fuchs M., Fartmann B., Granderath K., Dauner D., Herzl A.,
RA Gabel C., Fuchs M., Fartmann B., Granderath K., Dauner D., Herzl A.,
RA Massenet O., Quigley F., Clabauld G., Muendlein A., Felber R.,
RA Schnabl S., Hiller R., Schmidt W., Lecharny A., Aubourg S.,
RA Chefdor F., Cooke R., Berger C., Monfort A., Casacuberta E.,
RA Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A.,
RA Perez-Perez A., Purnelle B., Bent E., Johnson S., Tacon D., Jesse T.,
RA Heijnen L., Schwarz S., Scholler P., Heber S., Francs P., Bielke C.,
RA Frishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S.,
RA Parnell L., Dedhia N., Gnoj L., Schutz K., Huang E., Spiegel L.,
RA Schnon M., Murray J., Sheet P., Cordes M., Abu-Threideh J.,
RA Schon M., Marshi J., Graves T., Harmon G., Endards J.
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"Determination of the processing sites of an Arabidopsis 2S albumin and characterization of the complete gene family.";

Plant Physiol. 87:859-866(1988).
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheop
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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01-APR-1990 (Rel.
16-OCT-2001 (Rel.
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AT2S2 OR AT4G27150 OR T24A18.100.
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Ol-ARR-1990 (Rel. 14, Last sequence up
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25 seed storage protein 2 precursor (;
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an Montagu M.,
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mitted (CCT-1992) to the EMBL/GenBank/DDBJ databases.
FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND
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sen the Swiss Institute of Bio
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from Brassica napus.";
J. Biol. Chem. 262:12202-12208(1987).
-!- FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPINS ARE ONE OF THE TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED IN THE SEED DURITS MATURATION.
                                                                                                                                                                                                                                                              Brassica napus (Rape).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosideurosids II; Brassicales; Brassicaceae; Brassica.
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01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
25 seed storage-like protein precursor.
                                                                                                                                                                                                                                                                                                                                                                       01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
01-AUG-1992 (Rel. 23, Last annotation update)
Napin embryo specific precursor (1.7S seed storage protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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Submitted (NOV-1991) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS FAMILY.
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Spermatophyta; Coniferops
NCBI_TaxID=3330;
                                                                                                                       Scofield S.R., Crouch M.L.;
"Nucleotide sequence of a member of
                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=87308225; PubMed=3040733;
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S18871; S18871.
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15; Conservative
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IPR001768; Cereal_tryp_amyl_inh
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172 AA;
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2S SEED STORAGE-LIKE PROTEIN.
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Pfam; PF00234; tryp_alpha_amyl;
PRINTS; PR00496; NAPIN.
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-I- TISSUE SPECIFICITY: COTYLEDONS AND THE AXIS.
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01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
ALBUMIN SEED STORAGE PROTEIN (FRAGMENT).
Juglans regia (English walnut).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosideurosids I; Fagales; Juglandaceae; Juglans.
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[1]
                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
 61
                    67
 VRCMR 65
                    EDNQRQHFRQCCQQLSQMDEQCQCEGLRQVVRRQQQQQGLRGEEMEEMVQSARDLPNECG 126
                                       QQQESQQLQQCCNQVKQVRDECQCEAIKYIAEDQIQQGQLHGEESERVAQRAGEIVSSCG 60
                                                                                                                139
                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                AA;
                                                                                                                16373 MW;
                                                                       39.5%;
                                                              15;
                                                                       Score 141;
Pred. No. 1
                                                                                                                02D0E55E67164F23 CRC64;
                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                              139
                                                            DB 10;
1.9e-08;
nes 27;
                                                                                                                                                                                                                                                                                                                                                                               A
                                                                               Length 139;
                                                              Indels
                                                             0,
                                                                                                                                                                                                                                                                                             Rosidae;
                                                            Gaps
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В

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RESULT
1D QQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9AUD1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q39928
Q39928;
                                                                                                                                                                                                                                                                                                                                                                            Sesamum indicum (Oriental sesame) (Gingelly).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheo
Spermatophyta; Magnollophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Lamiales; Pedaliaceae; Sesamum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28 ALBUMIN PRECURSOR (FRAGMENT).
Helianthus annuus (Common sunflower).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheop
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids II; Asterales; Asteraceae; Asteroideae;
Helianthus.
                                                                                                      Submitted (MAR-2000) to the EMBL; AF240005; AAK15088.1; HSSP; P01085; 1HSS.
                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                            Asteridae; euasterids NCBI_TaxID=4182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-DEC-2001 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Thoyts P.J.E., Millichip Napier J.A., Shewry P.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (NOV-1993) to the EMBL/GenBank/DDBJ EMBL; X76101; CAA53710.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=FLOWERING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                      InterPro;
                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2S ALBUMIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=4232;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1996
                                                                                                                                                                                                      Molecular cloning of three
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56 VSSC 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
y.
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ISSQR 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PF00234; tryp_alpha_amyl; S; PR00496; NAPIN.; SM00499; AAI; 2.
                                      IPR001768;
                                                                   IPR003612; AAI.
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<1
156
323 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Helianthus.
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Millichip M., Stobart A.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19 P
323 23 24W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37.1%;
                            Cereal_tryp_amyl_inh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14;
                                                                                                                                                                                                         storage
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Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
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Last sequence update)
Last annotation update)
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EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 132.5; DB 1
Pred. No. 4.2e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2s
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A15378AFAD52D6B3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         153
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                                                                                                                                                                                                      in sesame.";
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                                                                                                                                                                         databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Tracheophyta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5
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Q9S87
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Q9S872
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Best Local
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000480; Glutelin.
InterPro; IPR000617; Mapin.
Pfam; PP00234; tryp_alpha_amyl; 1
PRINTS; PR00211; GLUTELIN.
PRINTS; PR00496; NAPIN.
SMART; SM00499; AAI; 1.
SEQUENCE 153 AA; 17504 MW; 6A
                                                                                                              Q9S870
Q9S870;
Q1-MAY-2000
          01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
7.9 KDA NAPIN-LIKE PROTEIN LARGE CHAIN (FRAGMENT).
Momordica charantia (Bitter gourd) (Balsam pear).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; endicotyledons; core (eurosids I; Cucurbitales; Cucurbitaceae; Momordica.
                                                                                                                                                                                                                                                                                                                                            InterPro; IPRO03612; AAI.
InterPro; IPRO00617; Napin.
PRINTS; PR00496; NAPIN.
SMART; SM00499; AAI; 1.
SEQUENCE 65 AA; 7350 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9S872;
Q9S872;
                                                                                                                                                                                                                                                                                                                                                                                                                                          "Purification and sequencing of napin-like protein small and large chains from Momordica charantia and Ricinus communis seeds and determination of sites phosphorylated by plant Ca(2+)-dependent
NCBI_TaxID=3673;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ricinus communis (Castor bean).

Bukaryota; Viridiplantae; Strephyta; Embryophyta;

Spermatophyta; Magnollophyta; eudicotyledons; core eu

eurosids I; Malpighiales; Euphorbiaceae; Ricinus.

NCBI_TaxID-3988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAY-2000
01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                  Biochim. Biophys.
                                                                                                                                                                                                                                                                                                                                                                                                                               protein kinase.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Neumann G.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97135090; PubMed=8980648;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    142
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1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
3 KDA NAPIN-LIKE PROTEIN LARGE CHAIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
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                                                                                                                                                                                                            ERSLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQSEQSLRDCCQQLRNVDERCRCEAIRQAVRQQQQEGGYQEGQSQQVYQRARDLPRRCNM 141
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                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Condron R., Polya G.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                  Acta 1298:223-240(1996).
                                                                                                                                                                                                                                                                                      34.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35.9%;
37.7%;
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                                                                                                                                                                                                                                                                                     Score 124; DB 10;
Pred. No. 6.8e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 128; DB 10;
Pred. No. 6.1e-07;
                                                                                                                                                                                                                                                                                                                                               CB9264C4C917F498 CRC64;
                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6A8F9117DAE81568 CRC64;
                                                                                                                                                                                                                                                                         Mismatches
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                                        Embryophyta; Tracheophyta
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                            core eudicots;
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PARTY POLY REPORT OF THE PROPERTY POLY REPORT OF THE PROPE
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Best Local Similarity
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Biochim. Biophys. Acta 1298:223-240(1996).
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                          Signal.
                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-COTYLEDON;

MEDILINE-92077151; PubMed=1743299;

Hara-Nishimura I., Inoue K., Nishimura M.;

"A unique vacuolar processing enzyme responsible for conversion several proprotein precursors into the mature forms.";

FEBS Lett. 294:89-93(1991).
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Q39649;
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SEQUENCE.
                                                                                     SMART;
                                                                                                                                                                                                                               Plant J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cucurbita sp.
Eukaryota; Viridiplantae; Streptophyta; I
Spermatophyta; Magnoliophyta; eudicotylee
eurosids I; Cucurbitales; Cucurbitaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
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"Purification and sequencing of napin-like protein small and large chains from Momordica charantia and Ricinus communis seeds and determination of sites phosphorylated by plant Ca(2+)-dependent
                                                                                                           ProDom;
                                                                                                                               Pfam;
                                                                                                                                                     InterPro;
                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=3666;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63 CMR 65
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                                                                                                                                          D16560; BAA03993.1; -.
Pro; IPR003612; AAI.
Pro; IPR001768; Cereal_tryp_amyl_inh.
Pro; IPR000617; Napin.
                                                                                                  n; PD002498; Napin; 1.
                                                                                     SM00499;
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141 /
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  ΑA,
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7869 MW;
                                                                                     AAI;
16597
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19,
  MW;
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/ta; eudicotyledons;
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Last sequence up
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Pred. No. 1.2e-06;
B; Mismatches 21;
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3E812A81C5E67EB5 CRC64;
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Best Local :
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01-JUN-2001 (Tremb)
01-OCT-2001 (Tremb)
2S SEED ALBUMIN-1 1
                                                            Dong J.-Z., Dunstan D.I.;
"White spruce albumin-like cDNA EMB36.";
"Submitted (JUN-1998) to the EMBL/GenBank/I
EMBL; AF074937; AAC34613.1;
-...
InterPro; IPR001768; Cereal_tryp_amyl_inh.
                                                                                                                                                                                                                                       Picea glauca (White spruce).
Eukaryota; Viridiplantae; Stre
Spermatophyta; Coniferopsida;
NCBI_TaxID=3330;
                                                                                                                                                                                                                                                                                                                               01-NOV-1998 (TIEMBLIEL 08, CI
01-NOV-1998 (TIEMBLIEL 08, LA
01-DEC-2001 (TIEMBLIEL 19, LA
ALBUMIN-LIKE STORAGE PROTEIN.
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                  InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_try;
Pfam; PF00234; tryp_alpha_amyl;
SMART; SM00499; AAI; 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VQQCCNQLEQIQDPQCRCEGLMKVVQQEEQTGKVQGRQRQQMLQTAENLPGLCRLSPQRC
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(TrEMBLrel. ...)

UMIN-1 LARGE
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17, Last sequence update)
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SUBUNIT (FRAGMENT).
                                                                                                                                                                                                                                                                                      Streptophyta;
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Pred. No. 2.6e-06;
8; Mismatches 23;
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Coniferales; Pinaceae;
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InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
SEQUENCE 165 AA; 19396 MW; 69CD2739820
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Picea glauca (White spruce).
Picea glauca (White spruce).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; '
Gayler K.R., Kolivas S., Blagrove R.J., Johnson E.
                                                      SEQUENCE FROM N.A.
STRAIN-UNICROP; TISSUE=COTYLEDON;
MEDLINE=9135912; PubMed=2103479;
MEDLINE=9135012; PubMed=2103479;
                                                                                                                                                                                                                                          Lupinus angustifolius (Narrow-leaved blue lupine).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; endicotyledons; core eudicots; Rosic
eurosids I; Fabales; Fabaceae; Papilionoideae; Genisteae; Lupinus
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Spermatophyta; Coniferopsida;
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Eukaryota; Viridiplantae; Streptophyta; Eml
Spermatophyta; Coniferopsida; Coniferales;
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ALBUMIN 3 (FRAGMENT)
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Plant Mol. Biol. 15:879-893(1990).
EMBL; X53523; CAA37598.1; -.
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                                                                                                                                                                                                                                                                             QLHGEESERVAQRAGEIVSSCGVR
                                                                                                                                                                                                                                                                                                                                         QRRREQPSERCCEELQRMSPHCRCRAIEQTLDQSLSFDSSTDSDSQDGAPLNQRRRRPEG
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                                                                                                                                                                                                                                                   RGREEEEEAVERAGELPDRCNVR
                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity 19; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19; Conservative
                                   8 (Tremburel. 08,
8 (Tremburel. 08,
1 (Tremburel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   172
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            153 AA;
                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
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29.2%;
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                                        Created)
Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                            Score 99; DB IV; Pred. No. 0.0012; Pred. No. 26;
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Pred. No. 0.0005;
1; Mismatches 2
                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2AE6FC9B210C7BF5 CRC64;
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                                                                                                                                   167
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es; Pinaceae; Pinus.
                                                                                                                                   3
                                                                update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 172;
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Best Local (
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Q42444;
Q1-NOV-1996
Q1-NOV-1996
                                                                                                                                                           InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00496; Napin.
ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                       Kridl J.C., McCarter D.W., Rose Radke S.E., Knauf V.C.; Seed Sci. Res. 1:209-219(1991). EMBL; M64632; AAA32999.1; -. EMBL; M64631; AAA32998.1; -. EMBL; M64631; AAA32998.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dong J.-Z., Dunstan D.I.;
"Picea glauca 2S albumin-like cDNA (EMB37).";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ
EMBL; AF074938; AAC34614.1;
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN=CV. R500;
Kridl J.C., McCart
                                                                                                                                                                                                                                                                                                                                                  Spermatophyta; Magnoliophyta; eurosids II; Brassicales; Bras
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00234; tryp_alpha_amyl; SMART; SM00499; AAI; 1. SEQUENCE 167 AA; 19726 MW;
                                                                                                                                                                                                                                                                                                                                                                          Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                     Brassica campestris (Field
                                                                                                                                                                                                                                                                                                                                                                                                  NAPIN
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                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=3711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     126 EMEEEEVVRRAEELPNTCNVLQSPRRC
152 RIYQTATHLPRACNIR 167
                     47
                                             92
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                                                          QQQESQQ----LQQCCNQVKQVRDECQCEAIK---YIAEDQI--QQG-QLHGEESE----
                     RVAQRAGEIVSSCGVR 62
                                           QQQGPQQRPPLLQQCCNELHQEEPLCVCPTLKGASKAVKQQIRQQQGQQMQGQQMQQVIS
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                                                                                          27;
                                                                                                                                                                                                                                                                                       .C., McCarter D.W., Rose R.E.,
                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                                                                                         Viridiplantae;
                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel.
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                                                                                                    26.9%;
35.5%;
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                                                                                                                                                                                                                                                                                                                                                           Streptophyta; Embryota; eudicotyledons;
                                                                                                                                                   MW;
                                                                                                                                                                                                                                                                                                                                                   Brassicaceae;
                                                                                                                                                                                                                                                                                                                                                                                     mustard)
                                                                                          12;
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                                                                                       Score 96; DB
Pred. No. 0.00
L2; Mismatches
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Pred. No. 0.00
19; Mismatches
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Last annotation update)
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                                                                                       . 0.0029;
tches 23;
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                                                                                                              DB 10;
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                                                                                                                                                                                                                                                                                         D.E.,
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                                                                                                             Length 184;
                                                                                                                                                 CRC64;
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                                                                                          Indels
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                                                                                                                                                                                                                                                                                                                                                              Rosidae;
                                                                                        Gaps
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RESULT
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Best Local
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01-AUG-1998
01-DEC-2001
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Brassica napus (Rape).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid

eurosids II; Brassicales; Brassicaceae; Brassica.

NCBI_TaxID=3708;
                    InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                               Pseudotsuga menziesii (Douglas-fir).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Coniferopsida; Coniferales; Pinaceae;
NCBI_TaxID=3357;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-CT-2001 (TrEMBLrel. 18, Last annotation update)
01-CT-2001 (TrEMBLrel. 18, Last annotation update)
NAPIN LARGE CHAIN L2B-CALMODULIN ANTAGONIST/CALCIUM-DEPENDENT PROTEIN
                                                                                                                                                 seed storage proteins in Pseudotsuga Planta 206:138-145(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           plant calcium-dependent protein kinase."
Biochim. Biophys. Acta 1295:34-43(1996).
InterPro; IPR003612; AAI.
InterPro; IPR000617; Napin.
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"Purification and sequencing of multiple forms of Brassica napus
napin large chains that are calmodulin antagonists and substrates
plant calcium-dependent protein kinase.";
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                                                                                                                                                                                                "Sequence and expression
                                                                                                                                                                                                                          Chatthai M., Misra S.
                                                                                                                                                                                                                                                 MEDLINE=98381325; PubMed=9715536;
                                                                                                                                                                                                                                                                              STRAIN=FRANCO;
                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=96283791; PubMed=8679671;
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                                                                                                                       AF029970; AAC26998.1; -.
  SM00499;
CE 162 A
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31.9%;
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Pseudotsuga menziesii [Mirb.
  WW;
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Pred. No. 0.
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6139481B1D31FDC2 CRC64;
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2

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Best Local Similarity 25.6%; Pred. No. 0.0028;
Matches 21; Conservative 21; Mismatches 21; Indels 19; Gaps 4;

Qy 1 QQCESQOLQCCNQVKQVRDECQCEAIKYI------AEDQIQQ--GQLHG---EESE 46
::: | :|||::: || |||:|| ||:||
Db 66 ERRREDPSESCCNELERMSPCCRCPAIQQVLDQSASFMDSEDALNQRRGRREEQ 125

Qy 47 RVAQRAGEIVSSCGV----RC 63
:|:|| :|| |||
Db 126 EMAERAAYLPDTCNVQESPRRC 147

Search completed: September 9, 2002, 12:45:37

Job time: 294 sec
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Minimum DB
Maximum DB
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
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1: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1980.DAT:*

2: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1981.DAT:*

3: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1982.DAT:*

4: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1983.DAT:*

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7: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1986.DAT:*

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11: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1989.DAT:*

12: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1990.DAT:*

13: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1993.DAT:*

14: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1993.DAT:*

15: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1997.DAT:*

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183
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Gapop 10.0 ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PSQQGCRGQIQEQQNLRQCQEYIKQQVSGQGPRR
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               Castor bean 25 alb Castor bean 25 sma synthetic 12 Kd pr Part of the sequen Mabinlin MBLI from Wild-type Brazil nu Synthetic 25 seed Modified Brazil nu Modified Brazil nu Modified Brazil nu rapin 1-2 gene pro
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Napin
Napin
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45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	ω L	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
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43	43	42	42	41	41	40	40	39		38	38	175	1692	62	158	149	149	149	111	111	111	111	111	164	164	189	189	184	184	184	184	184	184
22	22	22	22	22	22	22	22	22	22	22	22	14	22	14	18	19	19	19	19	19	19	19	19	10	10	15	9	22	21	19	19	18	16
AAB62613	AAB83391	AAB62614	AAB83380	AAB62615	AAB83381	AAB62616	AAB83382	AAB62617	AAB83383 .	AAB62618	AAB83384	AAR33390	AAU03390	AAR33391	AAW23588	AAW86274	AAW86273	AAW86272	AAW86270	AAW86269	AAW86268	AAW86267	AAW86266	AAP96144	AAP91892	AAR54980	AAP81140	AAB85931	AAY49926	AAW30670	AAW30526	AAW15415	AAR76694
_	peptide.	Soybean lunasin pe	Lunasin fragment #	Soybean lunasin pe	fragment	Soybean lunasin pe	Lunasin fragment #	Soybean lunasin pe	fragment	Soybean lunasin pe	fragi	Albumin-type prote	Fusarium graminear	Albumin-type prote	Mabinlin MBLIII fr	Modified Brazil nu		_	Modified Brazil nu	Ф	Amino acid sequenc	Napin protein from	uence encode	B. campestris lamb	Brassica campestri	Napin seed storage	estr	by	B. campestris napi				

ALIGNMENTS

RESULT AAB15421

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AAB15421;

17-JAN-2001

(first entry)

AAB15421 standard; peptide;

34 A

New glycoconjugate, useful for treating immunological disorders, comprises polysaccharide from Candida utilis and polypeptide from WPI; 2000-558369/51. Brieva Delgado A, Pivel Ranieri JP, polysaccharide; mannose; galactose; castor bean; immune response; human; 2S albumin storage protein; animal; tumour necrosis factor; mononuclear; phagocyte; granulocyte; macrophage; tumour; immunogen; Candida utilis. (INFA-) IND FARM CANTABRIA SA. 26-FEB-1999; 21-OCT-1999; 31-AUG-2000. WO200050087-A1 Ricinus communis. Antitumour; antimicrobial; immunostimulatory; glycoconjugate; mannose; Castor bean 2S albumin storage protein amino acids 157-190 99ES-0000408. 99WO-ES00338. Garcia Villarrubia V, Guerrero Gomez-Pamo Gimenez Gallego G, Matji Tuduri JA; P

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RESULT
AAB85946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the consensus sequence:

CC tac2bC(OERK)2(Z')(LIVM)2CCC(Z'')(OEH)(LV)26C2C22dGzecZ(VILM)zfcZg

CC where Z = any amino acid (aa); Z' = hydrophobic aa; Z'' = hydrophilic aa;

CC where Z = any amino acid (aa); Z' = hydrophobic aa; Z'' = hydrophilic aa;

CC a = 3-48; b = 9-13; c = 15-39; d = 13-56; e = 15-26; f = 1-8; g = 1-11;

CC the parentheses indicate the preferred sequence. This sequence

CC corresponds to amino acids 157-190 off the Ricinus communis (castor bean)

CC corresponds to amino acids 157-190 off the Ricinus communis (castor bean)

CC albumin storage protein which is used to generate the glycoconjugate

CC of the invention, with a polysaccharide from Candida utilis. (A) modifies

CC the immune response in humans and animals, especially it reduces the

CC amount of tumour necrosis factor (TNF) produced and stimulates the

CC mononuclear-phagocyte system and expands the granulocyte-macrophage

CC compartment. (A) are used for treating disorders of the immune system,

CC e.g. infections and tumours. (A) do not interfere with metabolic

CC processes in the liver and are active when given orally. Pp significantly

increases the antigenic response to weakly immunogenic PS, including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 34
                                                                            02-NOV-1988
10-AUG-1993
07-JUN-1995
07-WAR-1997
31-JUL-1986
26-MAY-1987
28-JUL-1987
25-JAN-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Castor bean
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Napin gene; promoter 2All; alpha-amylase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-NOV-2001 (first entry)
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(CALJ
                                                                                                                                                                                                                                                                                                       29-APR-1988;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ricinus communis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2S small subunit protein fragment.
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                                                87US-0078538.
88US-0147781.
88US-0168190.
                                                                                                                                     95US-0484941.
97US-0812665.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 183; DB 21;
Pred. No. 6.8e-18;
); Mismatches 0;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention provides a method for obtaining a plant which produces at least one seed having a modified phenotype. The method involves transforming a host plant cell with a DNA construct which consists of operably linked components in the direction of transcription, a promoter region from a Brassica plant gene, a DNA sequence of interest other than the native coding sequence, and a transcription termination region. The method is useful for obtaining plants having modified phenotype or for altering the phenotype of a plant seed or tissue. The DNA constructs are used in manipulating plant cells to provide for regulated transcription, such as light inducible transcription, in a plant tissue or plant part of interest at particular stages of plant growth or in response to external control. These constructs are also used for modulation of expression of endogenous products as well as production of exogenous products in the seed. Sequences ABB5941-47 represent fragments of storage proteins used
             Improving stability of protein or peptide in yeast - by expressing with a peroxisomal targetting sequence, allowing accumulation of unstable or toxic products, and new yeast suseful as food additives
                                                                                                                                                                                                                                                                                                                                                                 Stabilisation;
                                                                                                                                                                                                                                                                                                                                                                                               Synthetic 12
                                                                                                                                                                                                                                                                                                                                                                                                                                07-JUL-1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Obtaining a plant that produces a seed with a modified phenotype or altering a seed phenotype, comprises transforming a plant cell with a DNA construct consisting of operably linked components in the direction of transcription
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                                                                                                                                        Ito H,
                                                                                                                                                                         (EURO-)
                                                                                                                                                                                                        19-APR-1993;
                                                                                                                                                                                                                                       19-APR-1994;
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                                                                                                          1994-341868/42.
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| qqnlrqcqeyi-qqvsgq 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        l Similarity
17; Conserva
                                                                                                                                                                         EUROLYSINE
                                                                                                                                        Labat N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9; Fig 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kridl JC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                             Kd precursor protein of Brazil nut.
                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                        93FR-0004583
                                                                                                                                                                                                                                       94WO-FR00438
                                                                                                                                                                                                                                                                                                                                                                 toxic; peroxisome; yeast; food additive; brazil nut.
                                                                                                                                          Nicaud
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 78.5; DB 22;
Pred. No. 0.00052;
0; Mismatches 0;
                                                                                                                                          Pardo D,
                             products, and new yeast strains
                                                                                                                                           Raynal
                                                                                                                                          A,
                                                                                                                                          Sugimoto
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Best Local Similarity
Matches 16; Conser
                                                   Recombinant DNA expression in plants - using modified storage protein genes for heterologous polypeptide(s) in the seeds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stabilisation of a non-peroxisomal protein or peptide that is unstable in, or toxic for, a yeast and made by expressing a heterologous DNA sequence in the yeast, comprises expressing it with a sequence that targets to peroxisomes to stabilise/detoxify in the yeast peroxisomes. The method is especially used when the the non-peroxisomal protein is the 2S storage protein (this sequence) of Brazil nuts or the synthetic peptides E (See AAR62763) and ELE (See AAR62764). Yeast expressing these proteins are useful as food
The entire 2S-albumin storage protein precursor including signal peptide. It is to be inserted into plants under the control
                                 Fig 4; ; 121pp; English.
                                                                                                N-PSDB;
                                                                                                                                                                                                                                                                                                                                                     Key
                                                                                                                                                                                                                                                                                                                                                                          Brazil nut
                                                                                                                                                                                                                                                                                                                                                                                                                              Part of the sequence pBN2S1 plasmid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP91891 standard; protein; 140 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  additives (having a high content of essential amino acids).
                                                                                                 WPI; 1989-150783/20.
N-PSDB; AAN91699.
                                                                                                                                                      (PLAN-) PLANT
                                                                                                                                                                            20-OCT-1987;
                                                                                                                                                                                                20-OCT-1988;
                                                                                                                                                                                                                      05-MAY-1989
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                                                                                                                                                                                                                                                                           protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAP91891;
                                                                                                                                                                                                                                                                                                                                                                                              28-albumin; brazil nut;
heterologous polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Figure
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                110 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                      GENETIC SYST
                                                                                                                                JS,
                                                                                                                                                                          87EP-0402348
                                                                                                                                                                                                88WO-EP00944
                                                                                                                                                                                                                                                                                                                   /note="signal peptide"
31..38
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                                                                                                                                                                                                                                                                                               /note="mature small subunit"
39..43
                                                                                                                                                                                                                                                               /note="mature large subunit"
                                                                                                                                                                                                                                                                                   /note="processing site"
                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               40pp; French.
                                                                                                                                Krebbers
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43.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                          the
                                                                                                                                                                                                                                                                                                                                                                                                       pBN2S1; storage protein gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Brazil nut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 73; Pred. No.
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0.022;
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                                                                                                                                Leemans
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RESULT
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Best Local Similarity
Matches 15; Conserv
The present sequence represents the mabinlin MBLI. The encoding cDNA can modulate the expression of the gene encoding MBL in a cell or tissue. Mabinlin comes from the seeds of the Capparis masaikai plant, and is limited by its native availability, and so methods for producing recombinant mabinlin protein are being produced using chimeric genes such as MBLII (see AAT60776). The products provide recombinant materials for the production of the MBL protein in practical amounts, and for the production of transgenic plants containing inherently sweet edible parts by virtue of production of MBL in situ. The MBL protein can be used to
                                                                                                                              Mabinlin nucleotide sequences - recombinant proteins, useful as
                                                                                                                                                                WPI; 1997-087372/08.
N-PSDB; AAT60775.
                                                                                                                                                                                                                                                                                   09-JAN-1997
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                                                                                                           Disclosure; Fig 3; 38pp; English.
                                                                                                                                                                                                Chen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mabinlin MBLI from Capparis masaikai
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    beverage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          seed-specific promoter and expressed at high levels only or mostly n the seed forming stage and produced mostly in the seeds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30 nqeecreqmqrqqmlshcrmymrqqmeespyqtmprr
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rage; animal
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                                                                                                                                                                                               Hu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    masaikai.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
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                                                                                                                                                                                                                                         95US-0000480
                                                                                                                                                                                                                                                              96WO-US10669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transgenic plant; recombinant protein; leed; chewing gum; dental hygiene prod
                                                                                                                                                                                               Sun
                                                                                                                                                                                                                                                                                                                                      87..158
                                                                                                                                                                                                                                                                                                                                                                      /label= A_chain
71..86
                                                                                                                                                                                                                                                                                                                             /label=
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                                                                                                                                                                                                                                                                                                                                                                                                                          /label=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein;
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                                                                                                                               equences - for prodn. ouseful as sweeteners,
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dimer is
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                                                                                                                                                                                                                                                                                                                                                                                                                           Signal
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                                                                                                                                                                                                                                                                                                                                                 acids evidently lost when formed"
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0.073;
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                                                                                                                               of transgenic plants, partic. in foods
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :ein; food;
product;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                             mature
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                                                                 Matches
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Best Local
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Best Local
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                                                                                                                                                                                                                                                    This represents a wild-type Brazil Nut 2s albumin seed storage protein. The invention relates to modified Brazil Nut 2s albumin proteins that are rich in essential amino acids and nucleic acids encoding the modified proteins. The modified Brazil nut 2s albumin are selected from a group comprising of BNCNSS, BN11, BN15, BN17, BN18, BN19, BN153KW, A72S1BN15, A72S1BN19, A72S1BN153W genes. Chimeric genes comprising a nucleic acid fragment encoding a modified Brazil nut 2s protein operably linked to suitable regulatory sequences, integrated into the genome of a transformed plant can be can be used in methods for increasing the essential amino acid content of seeds. The products can be used to provide a human and animal dietary protein in seed crop plants that is relatively high in essential amino acid content.
                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brazil Nut 2S albumin; seed storage protein; modified; BNCNSS; BN11; BN15; BN17; BN18; BN19; BN153KW; AT2SIBN15; AT2SIBN19; AT2SIBN153W; chimeric; dietary protein; essential amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wild-type Brazil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  transgenic seed crops whose proteins have increased levels of essential amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New modified Brazil Nut 2S albumin proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gutteridge S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-APR-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sweeten foods, beverages, animal feeds, chewing gum, dental hygiene products and pharmaceuticals.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; Fig 1; 80pp; English.
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3 QQGCRGQIQEQQNLRQCQEYIKQQVSGQG----PRR
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nqplcrrqfqqhqhlracqryirrraqrgg 67
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                                                              l Similarity
15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAV80240
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                                                           Score 69; DB 19
Pred. No. 0.078;
6; Mismatches
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    useful to provide

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                                                    Query Match
Best Local :
                                           Matches
                                                                                                                 The sequence is that of a 2S seed storage protein with increased lysine content. The protein is synthesised from a set of partial DNA sequences capable of being assembled in a complementary overlapping relationship to provide the complete DNA. The protein is translated as the straight chain shown and undergoes post translational modification to give the mature protein which has two subunits joined by a di-sulphide bond.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
Protein
                                                                                                                                                                                                                              Improving the content of an amino acid in a seed storage protein to enhance nutritional value - by replacing non-conserved DNA with DNA encoding the amino acid
                                                                                              Sequence
                                                                                                                                                                                                        Disclosure; Fig 1; 33pp; English.
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N-PSDB; AAQ63710.
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42
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13; Conservative
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1..38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "signal peptide"
75..84
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                                                     37.48;
26.58;
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                                                     Score 68.5; DB Pred. No. 0.14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Modified Brazil nut 2S albumin gene BN153KW amino acid
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 /label= R101K
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note= "wild-type Arg
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AT2S1BN153W;
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                                                                                                                                                                                                                           Brazil Nut 2S albumin; seed storage protein; modified; BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; chimeric; dietary protein; essential amino acid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New modified Brazil Nut 2S albumin proteins - useful to provide transgenic seed crops whose proteins have increased levels of essential amino acids
                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1998-609902/51.
N-PSDB; AAV80251.
                                                                                                       Misc-difference
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                                                                                                                                                                                         Bertholletia excelsa
                                                                                                                                                                                                                                                                                                             Modified Brazil nut 2S albumin gene
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                                                                                                         Location/Qualifiers 37
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/label= R58K
/note= "wild-type
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"wild-type
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Pred. No.
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sequence of a modified
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RESULT 1
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Best Local (
                                                                                                                                                                                              The invention relates to modified Brazil Nut 28 albumin seed storage proteins and nucleic acids encoding the modified proteins. The modified Brazil nut 28 albumin proteins are rich in essential amino acids and the encoding genes selected from a group comprising of BNCNSS, BNI1, BNI5, BNI7, BNI8, BNI9, BNI53KW, AT2SIBNI5, AT2SIBNI9, AT2SIBNI53W genes. Chimeric genes comprising a nucleic acid fragment encoding a modified Brazil nut 28 protein operably linked to suitable regulatory sequences, integrated into the genome of a transformed plant can be can be used in methods for increasing the essential amino acid content of seeds. The products can be used to provide a human and animal dietary protein in seed crop plants that is relatively high in essential amino acid content. The present sequence represents the amino acid sequence of a modified
 11-DEC-1991
                   AAR14193;
                                                                                                                                                                                                                                                                                                                       Claim 6; Fig 2; 80pp; English.
                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                        transgenic seed crops whose essential amino acids
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                                     standard;
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82
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Pred.
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Matches 12
                                     31-JUL-1986;
28-JUL-1987;
15-NOV-1989;
28-JAN-1992;
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16-MAR-1990;
13-AUG-1990;
Knauf VC,
                                                                                                                                                                                                                                                                                                                                                                                                                        An expression construct contg. a plant desaturase suitable transformation is produced. 5' upstream and 3' downstream obtainable from the B. campestris napin gene here are used
                                                                                        31-JUL-1986;
                                                                                                            24-MAY-1994.
                                                                                                                                                   Brassica campestris
                                                                                                                                                                       enhance seed
                                                                                                                                                                                         Napin protein
                                                                                                                                                                                                              07-DEC-1994
                                                                                                                                                                                                                                  AAR54981;
                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding a plant desaturase - used for modify fatty acid compsn. of plant cells and plant seeds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1991-295627/40.
N-PSDB; AAQ13969.
                  (CALJ ) CALGENE INC
                                                                                                                                                                                                                                                     AAR54981 standard;
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12; Conservative
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Kridl JC
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                                    86US-0891529.
87US-0078924.
89US-0437764.
92US-0826696.
                                                                                                                                                                                          from Brassica
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90US-0494106.
90US-0567373.
                                                                                       86US-0891529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91WO-U001746
                                                                                                                                                                      production; acyl carrier protein; ACP-I.
                                                                                                                                                                                                                                                     Protein;
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Best Local S
Matches 12
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28-JUL-1987;
25-JAN-1988;
08-AUG-1991;
                                                                                                                                                                                                                                                                                                    WPI; 199
N-PSDB;
             Clone lambda CGN1-2 was isolated by screening a partial genomi
library of B. campestris DNA for napin-encoding clones. The e
CDS as well as extensive 5' and 3' sequences of the napin gene
sequenced (AAQ94586). An expression cassette was constructed
the 3'- and 5'-ends of the lambda CGN1-2 napin gene.
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N-PSDB;
                                                                                                                                                  Disclosure;
                                                                                                                                                                                             and
                                                                                                                                                                                                             DNA providing seed specific gene transcription - includes a transcription initiator from a gene preferentially expressed in seed cells, e.g. the napin gene, also related expression cassettes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US5420034-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA
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seed oil and to modulate
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DB; AAQ94586.
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                                                                                                                                                  Fig.2A-J;
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87US-0078538.
88US-0147781.
91US-0742834.
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ulate the
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -SGQGP 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene transcription;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
fatty ac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       compsn. of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oilseed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   lamda CGN1-2
                                                           The entire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       prodn.
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                                         from
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RESULT 1
AAW15415
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 12
                                                                                                                                                                                                                                                                                              28-JUL-1987;
25-JAN-1988;
08-AUG-1991;
30-MAY-1995;
                                                                                                     direction of transcription;
(a) a transcriptional initiation product preferentially expressed
                                                                                                                                     The sequences given in AAW15415-17 represent proteins encoded by fragments which were used in the construction of the DNA construct of the invention. The DNA construct comprises, in the 5' to 3'
Sequence
                  the seeds, such as phospholipid acyl d
                                               where the gene is a napin gene, ar
gene. This construct may be used
                                                                           of the gene; and
                                                                                                other pl
                                                                                                                                                                                              Transgenic Brassica plant and seeds - contain specific expression of heterologous proteins
                                                                                                                                                                                                                                                                                                                                      09-JUL-1990;
31-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                     04-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                            Brassica campestris
                                                                                                                                                                                                                                                                                                                                                                                                                                              phospholipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plant seed cell; napin gene; acyl carrier protein Brassica; fatty acid; rat thioesterase; acyl ACP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW15415;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW15415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                     which may be modified
                                                                   (C) a
                                                                                                                                                                            Example
                                                                                                                                                                                                                             N-PSDB;
                                                                                                                                                                                                                                                         Knauf VC,
                                                                                                                                                                                                                                                                            (CALJ ) CALGENE INC
                                                                                                                                                                                                                                                                                                                                                                   31-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                         US5608152-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Napin encoded by clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                     a DNA sequence of interest other than
                                                                                                                                                                                                                           1997-164560/15.
DB; AAT65475.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               crkefqqaqhlkacqqwlhkqamqsgsgp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRGQIQEQQNLRQCQEYIKQQV--
                                                                   transcriptional termination region;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12;
                                                                                                lant cells;
                                                                                                                                                                            2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; Protein;
                                                                                                                                                                            Column
                                                                                                                                                                                                                                                         Kridl JC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      184
 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              acyl desaturase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first
                                                                                                                                                                                                                                                                                              88US-0147781.
91US-0742834.
95US-0453924.
 A
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86US-0891529
                                                                                                                                                                                                                                                                                                                              87US-0078538
                                                                                                                                                                                                                                                                                                                                                                   86US-0891529
                    desaturase
                                                                                                                                                                            23-28;
                            ied such that
fatty acids,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37.2%;
41.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gamma - ACGN1 - 2.
                                                                                                                                                                          48pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 68; DB
Pred. No. 0.18
8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -SGQGP
                                                                                                                                                                           English.
                            heterologous proteins are produced rat thioesterase, acyl ACP or
                                                          an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA
                                                                                                        region from a gene that in a plant seed cell as
                                               n acyl carrier protein g
in the production of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32
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                                                                                                                                                                                                         contain
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1.18;
                                                                                      the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16;
                                                                                                                                                                                                         DNA
                                                                                   native coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene;
                                                                                                                                                                                                         construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                gene or an
a Brassica p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EA9
                                                                                                                                      construct to 3'
                                                                                                                  encodes a
                                                                                                        compared
                                                                                                                                                                                                         for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                         DNA
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                                                           EA9
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Query Match

37

. 28;

Score

68;

DB

18;

Length 184;

Best Local Similarity 41.4%; Matches 12; Conservative

8

Pred. No. 0.188; Mismatches

7;

Indels

2

No. 0.18;

1;

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RESULT 14
AAW30526
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29-APR-1988;
02-NOV-1988;
01-MAY-1990;
14-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-JUL-1986;
26-MAY-1987;
28-JUL-1987;
25-JAN-1988;
                                   for altering the phenotype of fruit tissue as distinct to other plant tissue, modifying the genotype of a plant to impart a desired characteristic to fruit, modifying transcription in fruit tissue, and expressing a heterologous DNA sequence of interest specifically in fruit tissue. The method provides transformation without gall
                                                                                                                            are manipulated for use with foreign sequences for introduction into plant cells to provide transformed plants having a phenotypic property that can be modulated. The invention is exemplified with
                                                                                                                                                                      regulatory regions from plant genes expressed during a particular developmental stage or in a specific tissue are identified by cDNA screening. The regulatory regions (and T-DNA and Ti or Ri plasmids
                                                                                                              property that can be modulated. The invention is exemplified with light, seed and fruit-specific promoters. Also claimed are methods
                                                                                                                                                                                                                This is the napin seed storage protein of Brassica campestris, encoded by genomic DNA in clone lambda CGN1-2 (see AAV36968). The promoter region of the napin gene can be used in a novel method for producing a plant with a regulatable phenotype. In this method,
                                                                                                                                                                                                                                                                                                                 Transformation of plants - with regulatory sequence containing constructs for tissue specific expression of genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW30526 standard;
                          tormation
                                                                                                                                                                                                                                                                                        Example
                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AAV36968.
                                                                                                                                                                                                                                                                                                                                                                                                                                   (CALJ ) CALGENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brassica campestris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  promoter; seed storage protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Transgenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brassica campestris napin seed storage protein
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                                                                                                                                                                                                                                                                                                                                                                          1998-311403/27
                                                                                                                                                                                                                                                                                        ω
                                                                                                                                                                                                                                                                                        Fig 2E-G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                plant; tissue-specific gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                         plants
                                                                                                                                                                                                                                                                                                                                                                                                                                                            87US-0054369.
87US-0078538.
88US-0147781.
88US-0168190.
88US-0168361.
88US-0267685.
90US-0582123.
90US-0582241.
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86US-0891529
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein; 184
                            which have
                                                                                                                                                                                                                                                                                      67pp; English.
                         historically not been Agrobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 expression; napin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene;
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G

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Gaps
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AAW30670
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Best Local
                                                                                                                                                                                                                                                                                                                                                                 28-JUL-1987;
25-JAN-1988;
15-MAR-1988;
29-APR-1988;
       transformed plants having a phenotypic property that can be modulated. The invention is exemplified with light, seed and fruit-specific promoters. Transformation without gall formation cells which are not Agrobacterium hosts, especially cereals and
                                                                                                 This is the napin seed storage protein of Brassica campestris, encoded by genomic DNA in clone lambda (GNI-2 (see AAV27945). The promoter region of the napin gene can be used in a novel method producing a plant with an altered phenotype. In this method,
                                                    regulatory regions from genes expressed during a particular developmental stage or in a specific tissue are identified by cl screening. The regulatory regions are manipulated for use with foreign sequences for introduction into plant cells to provide
                                                                                                                                                                              Producing transgenic plant of modified phenotype - is usefiexpression of heterologous genes which are light-inducible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                     N-PSDB;
                                                                                                                                                                                                                                                                                                           14-SEP-1990;
08-AUG-1991;
                                                                                                                                                                                                                                                                                                                                             07-NOV-1988;
21-MAY-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                      10-AUG-1993;
17-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brassica campestris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Transgenic plant; tissue-specific gene expression; napin gene;
                                                                                                                                                             Example
                                                                                                                                                                                                                              WPI; 1998-296772/26.
                                                                                                                                                                                                                                                     Facciotti D,
                                                                                                                                                                                                                                                                                                 07-JUN-1995
                                                                                                                                                                                                                                                                                                                                09-JUL-1990;
                                                                                                                                                                                                                                                                                                                                                                                                               31-JUL-1986;
26-MAY-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-MAY-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               promoter; seed storage protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Napin seed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAW30670;
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                                                                                                                                                                                                                                                                        (CALJ ) CALGENE
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12; Conserv
                                                                                                                                                           3; Fig 2E-G;
                                                                                                                                                                                                                     AAV27945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              storage protein.
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                                                                                                                                                                                                                                                     Shewmaker
                                                                                                                                                                                                                                                                                                                                88US-0168190.
88US-0188361.
88US-0267865.
90US-0526123.
90US-0550804.
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91US-0742834.
95US-0484941.
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88US-0147781
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87US-0054369
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85US-0692605
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37.2%;
41.4%;
                                                                                                                                                           68pp; English.
                                                                                                                                                                                                                                                     CK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 68;
Pred. No.
8; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
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0.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 184
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                                                                                                                                                                                              is useful
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                                                                                                                                                                                              for
                                                                              CDNA
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To the second

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Minimum
Maximum
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Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM protein - protein search, using sw model
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        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB DB
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47.5
47.5
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47.5
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58.5
57
56
54.5
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1. /cgn2_6/ptodata/2,

2. /cgn2_6/ptodata/2,

3. /cgn2_6/ptodata/2,

4. /cgn2_6/ptodata/2,

5. /cgn2_6/ptodata/2,

6. /cgn2_6/ptodata/2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match
      September 9, 2002, 12:44:13; Search time 34.92 Seconds (without alignments) 23.782 Million cell updates/sec
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Copyright (c) 1993 - 2000
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/BCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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  US-08-670-186-4
US-08-453-924-3
US-08-618-911-4
US-08-618-911-4
US-08-938-675A-2
US-08-938-675A-2
US-08-955-905A-23
US-07-955-905A-23
US-08-618-911-6
US-08-905-23-316
US-08-905-23-316
US-07-955-905A-23
US-07-955-905A-23
US-08-905-23-316
US-08-905-23-316
US-08-928-442-13
US-08-928-11107-13
US-08-98-11107-13
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                   Sequence 4, Appli Sequence 6, Appli Sequence 2, Appli Sequence 3, Appli Sequence 31, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 14, Appli Sequence 2, Appli Sequence 14,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
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                                                             Matches
                                                                          Query Match
Best Local Similarity
2 SQQGCRGQIQEQQNLRQCQEYIKQQVSGQG
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	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45.5	45.5	46.5	47
	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.9	24.9	25.4	25.7
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ALIGNMENTS	US-08-319-866-9	US-09-342-648-9	US-08-981-392-5	US-08-872-855-7	US-08-479-703A-6	US-09-007-383-15	US-08-365-901-7	US-08-105-710-7	US-08-482-090-11	US-09-041-886-13	US-08-531-927B-2	US-08-909-119-3	US-08-118-469A-3	US-08-706-391B-7	US-09-227-420-3	US-09-026-587-3	US-09-075-272-5	US-08-185-432-19
	Sequence 9, Appli	Sequence 9, Appli	Sequence 5, Appli	Sequence 7, Appli	Sequence 6, Appli	Sequence 15, Appl	Sequence 7, Appli	Sequence 7, Appli		Sequence 13, Appl	Sequence 2, Appli	Sequence 3, Appli	Sequence 3, Appli	Sequence 7, Appli	Sequence 3, Appli	Sequence 3, Appli	Sequence 5, Appli	Sequence 19, Appl

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; MOLECULE TYPE: protein US-08-670-186-4
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US-08-670-186-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 4 Patent No.
                                                                                                          REFERENCE/DOCKET NUMBER: 23.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
TELEPHAX: (202) 822-0168
TELEEX: 90-4030 MRSNFOERSWSH
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/670
FILING DATE: 21-7UN-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MURASHIGE, KATE H.
REGISTRATION NUMBER: 29,959
REGISTRATION NUMBER: 29,959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                STREET: 2000 PENNSYLVANIA
CITY: WASHINGTON
STATE: DC
COUNTRY: USA
ZIP: 20006-1888
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: RECOMBINANT SWEET PROTEIN MABINLIN NUMBER OF SEQUENCES: 10
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: XIONG, LIWI APPLICANT: HU, ZHONG APPLICANT: CHEN, HANG
                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0
                                    TOPOLOGY:
                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: MORRISON & FOERSTER
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5. 5859343
                                                    amino acid
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                                      linear
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Conservative

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Mismatches

11; Indels Length 158;

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Gaps

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38.3%;

Score 70; Pred. No.

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38

NQPLCRRQFQQHQHLRACQRYIRRRAQRGG 67

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RESULT 3
US-08-670-186-6; Sequence 6, Application US/08670186; Session No. 5859343
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                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (415) 854-37 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 07/550 FILING DATE: 09-JULY-1990 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 07/742,6 FILING DATE: 08-AUGUST-1991 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 2002
CTTY: Menlo Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Kridl, Jean C. APPLICANT: Knauf, Vic C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PITLE OF INVENTION:
                                                                                                                    47
                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: CGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: FILING DATE: 30-MACCLASSIFICATION: 43
                                                                                                                                                                                 Local Similarity les 12; Conserv
                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Rae-Venter, Barbara REGISTRATION NUMBER: 32,7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 07/147,71 FILING DATE: 25-JANUARY-1988
                                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                 6 CRGQIQEQQNLRQCQEYIKQQV--SGQGP 32
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                                                                                                                   CRKEFQQAQHLKACQQWLHKQAMQSGSGP 75
                                                                                                                                                                                                                                                                                                               amino acid
                                                                                                                                                                                                                                                                                                                                 184 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                 (415) 926-6200
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31-JULY-1986
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                                                                                                                                                                                             37.2%;
41.4%;
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                                                                                                                                                                                               Score 68; I
                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                DB 1;
0.071;
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                                                                                                                                                                                                                                                                                                                                                                                 US-08-618-911-4
                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application US/08618911 Patent No. 5850016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (202) 822-016
TELEX: 90-4030 MRSNFOE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC.
ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC.
AND ANTHAL Square, 400 Locust Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acids
TOPOLOGY: line-
VOLECHT
                                                                                                                                                                                                                             APPLICANT: Hu, David
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: RECOMBINANT SWEET PROTEIN MABINLIN NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                             NUMBER OF SEQUENCES:
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                                                                                                                                             ADDRESSEE: PIUNDER ... correct: 700 Capital Square,
                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                              38 NQPLCRRQFQQHQQVRACQRYLRRRAQRGG 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match 35.0%; Local Similarity 36.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 2000 .....
                                                                                                  ZIP:
                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 21-JUN-1996
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: MURASHIGE, KATE H. REGISTRATION NUMBER: 29,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 SQQGCRGQIQEQQNLRQCQEYIKQQVSGQG 31
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                  50309
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                                                                                                                               Iowa
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                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
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                                                                                                                                                                                                                                                                                                             Jung, Rudolf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (202) 887-1500
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Pred. No. 0.
                 Version #1.30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 158;
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APPLICATION NUMBER: US/08/618,911

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Best Local Similarity Matches 11; Conserv
                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Application US/08938675A Patent No. 6107287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (515) 248-484
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                          TELEPHONE: (650) 343-431
TELEFAX: (650) 343-4342
INFORMATION FOR SEQ ID NO: :
                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                         TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 158 amino acids
                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION: TELEPHONE: (650) 343-4341
                                                                                                                                                                                                                                                                  ATTORNEY AGENT INFORMATION:
NAME: OSMAN, RICHARD A
REGISTRATION NUMBER: 36,627
                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: /> CITY: HILLSBOROUGH
STATE: CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: de Lumen, Benito C
APPLICANT: Galvez, Alfredo F.
TITLE OF INVENTION: Lunasin F
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REFERENCE/POCKET NUMBER: 36
TELECOMMUNICATION INFORMATION:
TELEPHONE: (515) 248-4800
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                                                                                                                         TYPE: amino acid
STRANDEDNESS: sin
                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/08/938,675A FILING DATE:
                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
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                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
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Local Similarity 37.9%;
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amino acid
GY: linear
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 Conservative
                                                                                                          SS: single
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) 248-4844
--- NO: 4:
              32.0%;
37.9%;
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                                                                                                                                                                                            2:
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              Score 58.5; DB 3; Pred. No. 1.1;
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Pred. No. 1
Mismatches
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                            Length 158;
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Indels
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RESULT 7
US-07-955-905A-2
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US-08-026-758-23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Oblon, No. 5780021man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1126-09
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 413-3000
TELEX: 24885 OPAT UR
INFORMATION FOR SEQ ID NO: 23:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 23, Application.
Sequence 23, Application.
Patent No. 5780021
GENERAL INFORMATION: GOBEL, DOUGLAS O.
A METHOD
                                                                                                                                               Sequence 2, Application US/07955905A Patent No. 5770433
                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                         GENERAL INFORMATION:
APPLICANT:
               TITLE OF INVENTION: RECOMB-
TITLE OF INVENTION: PRECUR-
NUMBER OF SEQUENCES: 28
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08
FILING DATE: 19930305
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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LENGTH: 186 amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Protein LOCATION: 22..186 OTHER INFORMATION:
                                                                                                                                                                                                                                                           28 QLQERTNIRKCQELLEQ 44
 COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 1755 S. CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT ADDRESSEE: P.C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              186 amino acids
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IBM PC compatible
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DISEASES USING ALPHA-INTERFERON AND/OR BETA-INTERFERON
                                                                                                                                                                                                                                                                                                                                                       31.1%;
52.9%;
                                                                        PRECURSOR
                                                                                            RECOMBINANT 47 AND 31 kD COCOA PROTEINS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Mu-IFN-beta"
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                                                                                                                                                                                                                                                                                                                                      6; Mismatches
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US-08-618-911-6
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                                        Devence 6, Application US/08618911
Patent No. 5850016
                                                                                                                                                                                                            Best Local Similarity Matches 13; Conserv
                                                                                                                                                                                                                                           Query Match
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Best Local Similarity
Matches 13; Conserv
                                   GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION FOR SEQ ID NO:
   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: PC-DOS/MS-DOS
SOSTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/955,905A
FILING DATE: 21-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 566 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein ORIGINAL SOURCE:
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CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
                                                                                                                                               98
                                                                                                                                                                                                                                                                                                      LOCATION: 1..566
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear
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SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
                                                                                                                                                                                                                                                                                                                                                                    ORGANISM:
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                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Protein
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amino acid
OGY: linear
Jung, Rudolf
Hastings, Craig
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SYSTEM: PC-DOS/MS-DOS
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PRECURSOR
                                                                                                                                                                                                                                                                                                      /note= "67 kD Precursor Protein"
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                                                                                                                                                                                                                            Score 56;
Pred. No.
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Pred. No. 8.5;
                                                                                                                                                                                                            Mismatches
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8.5;
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                                                                                                                                                                                                                                        Length 566;
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                                                                                                                                                                                                            Indels
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RESULT 10
US-08-670-186-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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Best Local Similarity
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APPLICATION NUMBER: US/08/618,911
FILING DATE: Concurrently herewith
ATTORNEY/AGENT INFORMATION:
NAME: Simon, Soma
REGISTRATION NUMBER: 365-US
REFERENCE/DOCKET NUMBER: 365-US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (515) 248-4800
                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (515) 248-4844
INFORMATION FOR SEQ ID NO: 6:
                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0.
                                SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: APPLICATION UMBER: US/08/670,186 FILING DATE: 21-JUN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC
STREET: 700 Capital Square, 400 Locust Street
                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SUN, SAMUEL S.M. APPLICANT: XIONG, LIWEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Hu, David
TITLE OF INVENTION: ALTER
TITLE OF INVENTION: SEEDS
                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 700 capt.
CITY: Des Moines
                                                                                                                                                                                   COUNTRY: USA
ZIP: 20006-1888
                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28 QDSCRKQL-KGVNLTPCEKHIMEKIQGRG 55
                 CLASSIFICATION:
                                                                                                                                                                                                                         STATE:
                                                                                                                                                                                                                                         CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid TOPOLOGY: linear
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                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 QQGCRGQIQEQQNLRQCQEYIKQQVSGQG 31
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                                                                                                                                                                                                                                                          E: MORRISON & FOERSTER 2000 PENNSYLVANIA AVE I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        158 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                  CHEN, HANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Coughlan, Sean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM PC compatible PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                       ZHONG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29.8%;
                                                                                                                                                                                                                                                                                                                                 RECOMBINANT SWEET PROTEIN MABINLIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALTERATION OF AMINO ACID COMPOSITIONS
                                                                                                                                                                                                                                                                                                                 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 54.5;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                            WN,
                                                                                                                                                                                                                                                            STE. 5500
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; MOLECULE TYPE: protein 
US-08-670-186-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-905-223-316
                                                                                                                                                            TELEFAX: (611)
INFORMATION FOR SEQ ID NO: 31
SEQUENCE CHARACTERISTICS:
FRNGTH: 60 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (202) 822-0168
TELEX: 90-4030 MRSNFOERSWINFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                              CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Israelsen. Ned a
                                                                                                                                                                                                                                                                                                                                           SOFTWARE: WOIG CURRENT APPLICATION DATA: CURRENT APPLICATION NUMBER: US/08/905,223
                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIDIM TYPE: Floppy Disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: Win95
SOFTWARE: Word
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Edwards, Jean-Bap
APPLICANT: Duelert, Aymeric
APPLICANT: Lacroix, Bruno
TITLE OF INVENTION: 5' ESTS
                                                                                                    ORIGINAL SOURCE:
ORGANISM: Homo Sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 23.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
                                                                           FEATURE:
                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                         TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: San Diego
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 28.4%;
Local Similarity 40.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
                                                NAME/KEY: sig_peptide 
LOCATION: -40..-1
                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40 CQRQFLQHQRLRACQRFIHRRAQFGGQ 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                              IDENTIFICATION METHOD:
                                                                                      TISSUE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6 CRGQIQEQQNLRQCQEYI--KQQVSGQ 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316, Application US/08905223
5, 6222029
   INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  501 West Broadway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                              LINEAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Knobbe, Martens,
                                                                                         Brain
                                                                                                                                PROTEIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5' ESTS FOR SECRETED PROTEINS
OD: Von Heijne matrix score 5.9 seq VCSALCSLGEVRP/XE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              503
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Pred. No. 7.
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7.5;
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US-07-955-905A-23
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Best Local Similarity
""" Conserve
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US-07-814-964-13
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                                                                                                                                                                                                                   Patent No.
                                                                                                                                                                                                                  Sequence 13, Application US/07814964 Patent No. 5359047
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                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                 Matches 16;
                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 435
INFORMATION FOR SEQ ID NO:
                                                                                                             APPLICANT:
APPLICANT:
                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acids
TYPE: amino acid
TOPOLOGY: line
YOLEGHT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: PRI
TITLE OF INVENTION: PRI
NUMBER OF SEQUENCES: 21
COMPUTER READABLE FORM:
ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
                                       APPLICANT: Essigmann, John M.
APPLICANT: Lippard, Stephen J.
TITLE OF INVENTION: DNA Structure Specific Recognition
TITLE OF INVENTION: Protein and Uses Therefor
NUMBER OF SEQUENCES: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: protein ORIGINAL SOURCE:
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                                                                                                                                                                                                                                                                                                       105 QQRCIKRFEQQQQQSQRQFQECQQHCHQQ--EQRPER 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: Protein LOCATION: 1..587
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/0: FILING DATE: 21-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36 GEVRPXETLRACEEYLRXMTS 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM:
                                                                                                                                                                                                                                                                                                                                    3 QQGC--RGQIQEQQNLRQ---CQEYIKQQVSGQGPRR 34
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                                                                                                                                                     Toney, Jeffrey H. Bruhn, Suzanne L.
                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                               Kellett, Patti
                                                                                                                            Brown,
                                                                                                                                            Pil, Pieter M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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                                                                                                                              Steven
                                                                                                                                                                                                                                                                                                                                                                                27.0%;
43.2%;
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Pred. No. 63;
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Pred. No.
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7.2;
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COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk

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Best Local Similarity
Matches 12; Conser
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COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN RELEASE #1.0, Version #1.25
SOFTWARE: PATENTIN RATA:
APPLICATION NUMBER: US/07/814,964
FILING DATE: 1991126
CLASSIFICATION: 435
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 07/539,906
FILING DATE: 18-JUN-1990
ATTORNEY/ACENT INFORMATION:
NAME: Granhan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: MIT-4787AAA
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 13, Application US/08258442 Patent No. 5670621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 542 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: p
ORIGINAL SOURCE:
ORGANISM: Sacc
               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                             NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook,
                                                                                                                                                                                                                                  APPLICANT: Essigmann, John M.
APPLICANT: Lippard, Stephen J.
TITLE OF INVENTION: DNA Structure Specific Recognition
TITLE OF INVENTION: Protein and Uses Therefor
                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
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                                                                                                                                         STREET: 2 Milita
SOFTWARE:
                                                                                                           COUNTRY:
                                                                                                                                                     ADDRESSEE: Hamilion: correct: 2 Militia Drive
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                                                                                                                              MA
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                                                                                                           USA
                                                                                                                                                                                                                                                                                                                            Brown, Steven
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PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomyces cerevisiae
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24.0%;
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                                                                                                                                                                               Smith & Reynolds, P.C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
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US-08-328-809-8
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US-08-258-442-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8, Application US/08328809 Patent No. 5705334
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO:
                                                                                                                          MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
             ATTORNEY/AGENT INFORMATION:
NAME: Fenton, Gillian M.
REGISTRATION UNMBER: 36,5
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: MITTELECOMMUNICATION INFORMATION:
TELEPHONE: 617,861-6240
                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
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TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Kellett, Patti
TITLE OF INVENTION: Uses For DNA Structure-Specific
TITLE OF INVENTION: Recognition Proteins
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ALIGNMENTS

A;Title: Structural relationship between barley (Hordeum vulgare) trypsin inhibitor a A;Reference number: A90322; MUID:83308577 A;Contents: annotation A;Note: this protein is homologous with trypsin inhibitor from barley C;Complex: consists of two chains linked by two disulfide bonds involving Cys-162 and C;Superfamily: 2S seed storage protein precursor	A; Molecule type: protein A; Residues: 157-190;194-221,'Q',223-225,230-233,'N',235-254,'Q',256-258 <sha> A; Residues: 157-190;194-221, 'Q',223-225,230-233,'N',235-254,'Q',256-258 <sha> A; Note: 230-Ser was also found A; Note: there is considerable similarity between residues 181-231 of this protein and R; Odani, S; Koide, T; Ono, T; Ohnishi, K. Biochem, J. 213, 543-545, 1983</sha></sha>	A; Notices 1011. 52/221 A; Molecule type: protein A; Residues: 'X',37,'X',39-45;'X',158-161,'X',163-174,'X' <ira> A; Residues: 'X',37,'X',39-45;'X',158-161,'X',163-174,'X' <ira> A; Sharlef, F.S.; Li, S.S.L. J. Biol. Chem. 257, 14753-14759, 1982 J. Biol. Chem. 257, 14753-14759, 1982 A; Title: Amino acid sequence of small and large subunits of seed storage protein from A; Reference number: A92357; MUID: 83082772 A: Accession. A01378 A: Accession. A01378</ira></ira>	A; Molecule type: mRNA A; Residues: 1-13, 'F', 15-73, 'T', 75-258 <ir2> A; Experimental source: clone 1494 A; Accession: S11501 A; Molecule type: mRNA A; Residues: 'SFALVTVF', 15-73, 'T', 75-258 <ir3> A; Experimental source: clone 898 A; Accession: S11502 A; Molecule type: mRNA A; Residues: 'M', 4, 'LS', 7-13, 'F', 15-21 <irf> A; Residues: 'M', 4, 'LS', 7-13, 'F', 15-21 <irf> A; Accession: S27271 A; Accession: S27271</irf></irf></ir3></ir2>	A;Molecule type: DNA A;Residues: 1-258 <irw> A;Cross-references: EMBL:X54158; NID:g21067; PIDN:CAA38097.1; PID:g21068 A;Cross-references: EMBL:X54158; NID:g21067; PIDN:CAA38097.1; PID:g21068 A;Note: the authors translated the codon CTC for residue 14 as Phe, CCA for residue 7 R;Irwin, S.D.; Keen, J.N.; Findlay, J.B.C.; Lord, J.M. Mol. Gen. Genet. 222, 400-408, 1990 A;Title: The Richus communis 2S albumin precursor: a single preproprotein may be pro A;Reference number: S11500; MUID:91109729 A;Accession: S11500</irw>	RESULT 1 R2CS 2S seed storage protein precursor - castor bean N; Alternate names: 2S albumin precursor C; Species: Ricinus communis (castor bean) C; Date: 14-Nov-1983 #sequence_revision 08-Feb-1996 #text_change 18-Jun-1999 C; Accession: S11499; S11500; S11501; S11502; S27221; A01328; S27222 R; Irwin, S.D.; Lord, J.M. Nucleic Acids Res. 18, 5890, 1990 A; Title: Nucleotide sequence of a Ricinus communis 2S albumin precursor gene. A; Reference number: S11499; MUID:91016940 A; Accession: S11499; MUID:91016940 A; Accession: S11499; MUID:91016940

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FEBS Lett. 295, 207-210, 1991
A;Title: A new distinct group of 2 S albumins from rapeseed A;Reference number: S20350; MUID:92111741
A;Accession: S26636
A;Molecula +----
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C;Keywords: pyroglutamic acid; seed; storage protein
F;1-31/Product: napin small chain #status experimental <SMA>
F;32-110/Product: napin large chain #status experimental <LA
F;32/Modified site: pyrrolidone carboxylic acid (Gln) (in ma
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A;Accession: S20350
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C;Date: 12-Feb-1993 #sequence_revision 12-Feb-1993 #text_change
C;Accession: S20350; S20351
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F;36-73/Product: probable 2S seed storage protein small chain 2 #status experimental <S(F;36-73/Product: probable 2S seed storage protein chain large 2 #status predicted <LCHIF;157-190/Product: 2S seed storage protein small chain #status experimental <SML>F;194-258/Product: 2S seed storage protein large chain #status experimental <LRG>F;194-Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status experimental <
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4 QGCRGQIQEQQNLRQCQEYIKQQVSG----QGPR 33
                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
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                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rape
                                                                                                                                                                                                                                                                                                                                                                      .; Lopez-Otin, C.; Villalba, M.; Rodriguez, 207-210, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; ilarity 100.0%; Conservative
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Pred. No. 0.00065;
                                                                            Score 80;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 183;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                          Mismatches
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                                                                              0.0013;
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                                                                                               Length 110
                                                                                                                                                            (in mature
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S14947
2S albumin
                                                                            seed storage protein Lec2SA1 small chain [imported] -
N;Alternate names: 2S albumin small subunit
C;Species: Lycopersicon esculentum (tomato)
C;Date: 31-Dec-2001 #sequence_revision 31-Dec-2001 #te
                                                                                                                                                          RESULT
B59346
                                  C; Accession: R; Oguri, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Galau, G.A.; Wang, H.Y.C.; Hughes, D.W.
submitted to the EMBL Data Library, January 1992
A;Description: Cotton Mat5-A (C164) gene and Matf
A;Reference number: Z16893
A;Accession: T09878
                                                                                                                                                                                                                                                 В
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                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Keywords: storage protein
F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-139/Product: albumin 2S storage protein Mat5-A #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Gossypium hirsutum (upland cotton)
C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999
C;Accession: T09878
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C;Superfamily: wheat alpha-amylase inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plant Mol. Biol. 16, 437-448, 1991
A;TitLe: Isolation, characterization and expression of a gene coding for a 2S
A;Reference number: S14946; MUID:91370890
A;Accession: S14947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Accession: S14947
R;Gander, E.S.; Holmstroem, K.O.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-139 <GAL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             albumin 2S storage protein precursor Mat5-A - upland cotton
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A; Residues: 1-154 <GAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:X54491; NID:g17712; PIDN:CAA38363.1; PID:g17713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: preliminary
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Best Local
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15; Conserv
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               Protein
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42.9%;
               Sequence
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Pred. No. 0.0052;
7; Mismatches 1
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Pred. No. 0.01;
               Database, September 2000
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                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                              31-Dec-2001 #text_change
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methionine-rich

29-Oct-1999

Length Indels

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tomato

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major allergen small chain - leaf mustard
C;Species: Brassica juncea (leaf mustard)
C;Dec: 10-Dec:1993 #sequence_revision 27-Feb-1997 #text_change 07-May-1999
C;Accession: 335591
R;Monsalve, R.I.; Gonzalez de la Pena, M.A.; Menendez-Arias, L.; Lopez-Otin, C.;
Blochem. J. 293, 625-632, 1993
A;Title: Characterization of a new oriental-mustard (Brassica juncea) allergen, B A;Reference number: S3591; MUID:93356721
A;Accession: S3591
A;Accession: S3591
A;Molecule type: protein
A;Residues: 1-37 <MON>
C;Superfamily: wheat alpha-amylase inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
S35591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2S seed storage protein small chain - Brazil nut
C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 19-May-2000
C;Accession: A25802
R;Ampe, C.; Van Damme, J.; de Castro, L.A.B.; Sampaio, M.J.A.M.; Van Montagu
Eur. J. Biochem. 159, 597-604, 1986
A;Title: The amino-acid sequence of the 2S sulphur-rich proteins from seeds
A;Reference number: A91173; MUID:87004679
A;Accession: A25802
A;Molecule type: protein
A;Residues: 1-28 <AMP>
C;Superfamily: wheat alpha-amylase inhibitor
C;Keywords: pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Experimental source: cv. cherry; seed C; Complex: heterodimer of large (see PIR: A59346) C; Keywords: heterodimer; seed; storage protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-32 <OGU>
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A25802
2S seed storage
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RESULT
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Best Local S
Matches 13
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Best Local S
Matches 11
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Best Local
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                                                                               CRGQIQEQONLRQCQEYIKQQV--SGQGP 32
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                                                 CRKEFQQAQHLRACQQWLHKQAMQSGSGP
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Pred. No. 0.00
7; Mismatches
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Pred.
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0.0066;
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RESULT 10
S65447
allergen Sin a
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PC1246
Sin a I allergen 1 precursor - white mustard (fragment)
C;Species: Sinapis alba (white mustard)
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #tex
C;Accession: PC1246
C;Accession: PC1246
C;Accession: PC1246
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allergen Sin a I small chain - white mustard
c; Species: Sinapis alba (white mustard)
C; Date: 01-Dec-1989 #sequence_revision 01-Dec-1989 #text_change 25-Oct-1996
C; Accession: S01791
R; Menendez-Arias, L; Moneo, I.; Dominguez, J.; Rodriguez, R.
Bur. J. Biochem. 177, 159-166, 1988
A; Title: Primary structure of the major allergen of yellow mustard (Sinapis A; Reference number: S01791; MUID:89030681
A; Accession: S01791
A; Molecule type: protein
A; Residues: 1-39 <MEND
Exercise Solution found
A; Residues: 1-39 <MEND
Exercise Solution found
Exerci
R;de la Pena, M.A.G.; Villalba, M.; Garcia-Lopez, J.L.; Rodriguez, Biochem. Biophys. Res. Commun. 190, 648-653, 1993
A;Title: Cloning and expression of the major allergen from yellow | A;Reference number: PC1246; MUID:93151856
A;Accession: PC1246
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: protein
A; Residues: 40-127 <MEN>
C: Superfamily: wheat alpha-amylase inhibitor
C; Keywords: seed; storage protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A:EXPERIMENTAL L.; Moneo, I.; Dominguez, v., ...
R;Menendez-Arias, L.; Moneo, I.; Dominguez, v., ...
Eur. J. Biochem. 177, 159-166, 1988
Eur. J. Biochem. 177, 159-166, 1988
A;Title: Primary structure of the major allergen
A;Title: Primary structure of the major allergen
A;Title: Primary structure of the major allergen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           allergen Sin a I - white mustard

N;Alternate names: allergen Sin a I large chain

C;Species: Sinapis alba (white mustard)

C;Date: 28-Oct-1996 #sequence_revision 13-Mar-1997 #text_change 17-Mar-1999

C;Accession: S65447; S01792

R;Gonzalez de la Pena, M.A.; Monsalve, R.I.; Batanero, E.; Villalba, M.; Roc

Eur. J. Bjochem. 237, 827-832, 1996
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A; Accession: S01792
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRKEFQQAQHLRACQQWLHKQAMQSGSGP
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13; Conservative
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13; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Score 71; DB
; Pred. No. 0.02
7; Mismatches
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0.007;
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0.023;
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A; Molecule type: DNA
A; Residues: 1-145 GON>
A; Cross-references: EMBI
A; Experimental source: s
C; Genetics:
A;Gene: sin3
C;Superfamil
C;Keywords:
                                                                                                                                                                        allergen Sin a I (clone SIN3) - white mustard (fragment)
C;Species: Sinapis alba (white mustard)
C;Date: 28-Oct-1996 #sequence_revision 13-Mar-1997 #text_change 16-Jul-1999
C;Accession: S65481
R;Gonzalez de la Pena, M.A.; Monsalve, R.I.; Batanero, E.; Villalba, M.; Rodriguez,
Bur. J. Biochem. 237, 827-832, 1996
A;Title: Expression in Escherichia coli of Sin a 1, the major allergen from mustard.
A;Reference number: S65447; MUID:96235251
A;Accession: S65481
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S65478
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Superfamily: whe C; Keywords: seed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             allergen Sin a I (clone SIN5) - white mustard C;Species: Sinapis alba (white mustard) C;Date: 28-Oct-1996 #sequence_revision 13-Mar-C;Accession: S65478
                                                                                                                                                      A; Status: nucleic acid sequence not shown
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A; Residues: 1-145 <GON>
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A; Accession: S65478
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A;Title: Expression in Escherichia coli of Sin a 1, the major allergen from mustard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Residues: 1-145 <DLP>
A; Experimental source: seed
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Best Local S
Matches 13
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                    Superfamily:
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  seed;
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                  wheat alpha-amylase
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  storage protein
                                                                                                                     <GON>
                                                                                              EMBL:X91801;
                                                                                seed
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                                                                                            NID:g1009437;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 71; DB
Pred. No. 0.02
7; Mismatches
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Pred. No. (
                    inhibitor
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0.027;
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.027;
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                                                                                                PIDN:CAA62911.1;
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A;Title: Expression in Escherichia
A;Reference number: S65447; MUID:96
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A;Title: Expression in Escherichia coli of Sin a 1, the major allergen from mustard A;Reference number: S65447; MUID:96235251
A;Accession: S65482
                                                                                                                            C;Superfamily: wheat alpha-amylase inhibitor
C;Keywords: seed; storage protein
                                                                                                                                                                                 C; Genetics:
                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-145 <GON>
                                                                                                                                                                                                                                                                                                                                              R;Gonzalez de la Pena, M.A.; Monsalve, R.I.; Batanero, E.; Villalba, M.; Rodriguez, Eur. J. Biochem. 237, 827-832, 1996
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C;Accession: S65482
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C; Species: Sinapis alba (white mustard)
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                                                                                                                                                                A; Gene:
                                                                                                                                                                                                    A; Experimental source:
                                                                                                                                                                                                                     A;Cross-references: EMBL:X91800; NID:g1009435; PIDN:CAA62910.1; PID:g1009436
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A; Residues: 1-145 <GON>
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                                     Query Match
Best Local S
Matches 13
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RX_DROME	H15_DROME	NPL6_YEAST	ABF1_HUMAN	HTK7_HYDAT	GLT3_WHEAT	GLTO_WHEAT	2SS5_HELAN	HOG3_HORVU	TRX_DROVI	FSH_DROME	SNF5_YEAST
	Q94890 drosophila			Q25197 hydra atten					Q24742 drosophila		P18480 saccharomy

ALIGNMENTS

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/	LINKED BY 2 DISULFIDE BONDS.	J. 213:543-545(1983). ION: THIS IS A 2S SEED STORAGE PROTEIN. IT: THE MATURE PROTEIN CONSISTS OF A SMALL I	SIMILARITY TO PROTEINASE INHIBITORS. MEDLINB-83308577; PubMed=6615448; Odani S., Koide T., Ono T., Ohnishi K.; "Structural relationship between barley (Hordeum vulgare) trypsin inhibitor and castor-bean (Ricinus communis) storage protein.";	<pre>"Amino acid sequence of small and large subunits of seed storage protein from Ricinus communis."; J. Biol. Chem. 257:14753-14759(1982).</pre> [4]	[3] SEQUENCE OF 157-190 AND 194-258. MEDLINE-83082772; PubMed-7174664;	e."; leic Acids Res. 18:5890-5890(1990).	MEDINE-91016940; PubMed=2216785; Irwin S.D., Lord J.M.; "Nucleotide sequence of a Ricinus communis 2S albumin precursor	[2] SEQUENCE FROM N.A. TISSUB-Endosperm:	"The Ricinus communis 2S albumin precursor: a single preproprotein may be processed into two different heterodimeric storage proteins."; mol. Gen. Genet. 222:400-408(1990).	J.	[1] SEQUENCE FROM N.A.	yta; eudicotyledons; core eu Euphorbiaceae; Ricinus.	Ricinus communis (Castor bean). Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;	16-007-1990 (Rel. 10, Last sequence place) 16-007-2001 (Rel. 40, Last annotation update) 28 albumin precursor (Allergen Ric C 1)	(Rel. 01, Creat	RESULT 1 2SS_RICCO ID 2SS_RICCO STANDARD; PRT; 258 AA.

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Monsalve R.I., Lopez-Otin C., Villalba M., Rodriguez
Monsalve R.I., Lopez-Otin C., Villalba M., Rodriguez
"A new distinct group of 2 Salbumins from rapeseed.
sequence of two low molecular weight napins.";
FEBS Lett. 295:207-210(1991).
                                                        Pfam; PF01631; Seedstore_2S; PRINTS; PR00496; NAPIN. ProDom; PD002498; Napin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Stre
Spermatophyta; Magnoliophyta;
eurosids II; Brassicales; Bras
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MOD_RES
                                        SMART; SM00499; AAI;
                                                                                                              InterPro; IPR003612;
InterPro; IPR000617;
                                                                                                                                               -!- MISCELLANEOUS: THE SEQUENCE
-!- SIMILARITY: BELONGS TO THE 2
PIR; S20350, S20350
                                                                                                                                                                                                                     ITS MATURATION.
-!- SUBUNIT: THE MATURE PROTEIN CONSISTS
LINKED BY DISULFIDE BONDS.
-!- MISCELLANEOUS: NAPIN IA AND IB ARE MI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brassica napus (Rape).
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01-MAR-1992 (Rel. 21, Last sequence update)
01-MAR-1992 (Rel. 21, Last annotation update)
Napin IA and IB small chain and large chains.
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Pfam; PF00234; tryp_alpha_amyl; 2.
SMART; SM00499; AAI; 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR003612;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         157 PSQQGCRGQIQEQQNLRQCQEYIKQQVSGQGPRR 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match 100.0%;
Local Similarity 100.0%;
es 34; Conservative (
                                                                                                                                                                                                                                                                                                   TWO MAJOR KINDS OF STORAGE
storage protein.
                                                                                                                                                                                                          ALBUMIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein;
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                                    Napin;
AI; 1.
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                                                                                                              Napin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           yta; eudicotyledons; cor
Brassicaceae; Brassica.
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E -> Q (IN REF. 3).
MISSING (IN REF. 3).
D -> N (IN REF. 3).
E -> Q (IN REF. 3).
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Pred. No. 8
 SMALL CHAIN.
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2S SEEL
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DURING
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RESULT 4
ALL1_SINAL STANDARD;
ID ALL1_SINAL STANDARD;
AC P15322;
DT 01-APR-1990 (Rel. 14, Created)
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ALL1_BF
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Best I
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_BRAJU STANDARD; PRT; 129 AA.

P80207; p80215;
01-OCT-1993 (Rel. 27, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Allergen Bra j 1-E, small and large chains (Bra j I).
Brassica juncea (Leaf mustard) (Indian mustard).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosida;
eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                                                                     CHAIN
NON_CONS
CHAIN
VARIANT
VARIANT
SEQUENCE
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VARIANT
SEQUENCE
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CHAIN
VARIANT
                                                                                                                                                                                                                                                                                                                                                           MEDLINE-93356/41; runned (VI)
MONSAlve R.I., Gonzalea de la Pena M.A., Menendez-Aria
Monsalve R.I., Gonzalea
Lopez-Otin C., Villalba M., Rodriguez R.;
"Characterization of a new oriental-mustard (Brassica
"Characterization of a new oriental-mustard (Brassica
                                                                                                                                                                                                                                                                                                                                                      allergen, Bra j IE: detection of an Biochem. J. 293:625-632(1993).
                                                                                                                                                                                                                                                                             InterPro; IPR003612; AAI.
InterPro; IPR000617; Napin.
Pfam; PF01631; Seedstore_2S; 1.
                                                                                                                                                                                                                                   Allergen;
                                                                                                                                                                                                                                               SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                   PRINTS; PR00496; NAPIN.
                                                                                                                                                                                                                                                                                                            LINKED BY TWO DISULFIDE BONDS.
                                                                                                                                                                                                                                                                                                                                 -!- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Seed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=3707;
                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=93356721; PubMed=7688955;
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                                                                                    6 CRGQIQEQQNLRQCQEYIKQQV--SGQGPR
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                                                                         CRKEFQQAQHLRACQQWLHKQAMQSGSGPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QKCQREFQQEQHLRACQQWIRQQLAGSPFQSGPQ 36
                                                                                                                   l Similarity
13; Conserv
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14; Conser
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43.3%;
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Pred. No.
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Pred. No. 0.
                                                                                                                                                                                           LARGE CHAIN.
F -> I.
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E -> Q (IN NAPIN IB).
MISSING (IN NAPIN IB).
; 3A2938ADA2C1E995 CRC64;
                                                                                                                                                                                                                          SMALL CHAIN
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                                                                                                                                         Length 129;
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PRT;

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RESULT 5
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Best Local S
Matches 13
                           MEDLINE-94350343; runner, Goshev I., Genov N.;
Svendsen I.B., Nicolova D., Goshev I., Genov N.;
"Primary structure, spectroscopic and inhibitory prochain trypsin inhibitor from the seeds of charlock L), a member of the napin protein family.";
Int. J. Pept. Protein Res. 43:425-430(1994).
-I- FUNCTION: INHIBITS TRYPSIN WITH A KI OF 7 X 10(
                                                                                                                                                                                                                                                                          ITRY_SINAR P38057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Menendez-Arias L., Moneo L., Punitary Menendez-Arias L., Moneo L., Primary structure of the major allergen alba L.) seed, Sin a I.";
alba L.) seed, Sin a I.";
alba L. Biochem. 177:159-166(1988).
                                                                                                                                                                            Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosideurosids II; Brassicales; Brassicaceae; Sinapis.
                                                                                                                                                                                                                          01-OCT-1994 (Rel. 30, Cre
01-OCT-1994 (Rel. 30, Las
16-OCT-2001 (Rel. 40, Las
Trypsin inhibitor (TISA).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-APR-1990 (Rel. 14, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
Allergen Sin a 1, small and large chains (Sin a I).
Sinapis alba (White mustard) (Brassica hirta).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eueurosids II, Brassicales; Brassicaceae; Sinapis.
                                                                                                                               TISSUE-Seed;
                                                                                                                                                                                                    Eukaryota; Viridiplantae;
InterPro;
                                                                                                                                             SEQUENCE
                                                                                                                                                                  NCBI_TaxID=29728;
                                                                                                                                                                                                                 Sinapis arvensis (Charlock).
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProDom;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -!- DISEASE: ALLERGIC DISEASE,
-!- SIMILARITY: BELONGS TO THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NON_CONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR003612; AAI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -i- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN -i- SUBUNIT: THE PROTEIN CONSISTS OF TWO CHAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-89030681; PubMed-3181153;
Menendez-Arias L., Moneo I., Dominguez J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Seed;
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            SIMILARITY:
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$01791; $01791.
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13; Conser
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IPR003612;
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1 39 S
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           BELONGS
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AAI.
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Pred. No. 0.01
7; Mismatches
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2S SEED
           2S
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           SEED
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         STORAGE
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         ALBUMINS FAMILY
                                10(-6)
                                                                             properties
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                                                                                                                                                                                       eudicots; Rosidae;
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MEDLINE-87004679; P
Ampe C., van Damme
van Montagu M., Van
                                                                                                                    Gander E.S., Holmstroem n.v., ---
Garneiro M., Grossi de Sa M.F.;
"Isolation, characterization and expression of a mortholletia excelsa (Brazil nut).
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                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bertholletia excelsa (Brazil nut).
Eukaryota; Viridiplantae; Etreptophyta; Embryophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eu
Asteridae; Ericales; Lecythidaceae; Bertholletia.
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                                                                                                             from Bertholletia excelsa ol. Biol. 16:437-448(1991)
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                                                                                  01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Mabinlin I-1, A and B chains (MAB I) (Sweet p.
Capparis masaikai (Mabinlang).
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MEDLINE=94333405; PubMed=8055976;
                                                       Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosiceurosids II; Brassicales; Brassicaceae; Capparis.
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smarr; sm00499; AAI; 1.
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-!- SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS FAMILY.
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S14946;
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S21640; S21640.
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                                                                                                                                                                                                                      SQQGCRGQIQEQQNLRQCQEYIKQQVSGQG----PRR
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7; Mismatches
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S -> E (IN VARIANT 1A)
EE -> QQ (IN REF. 4).
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0.022;
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                                                                                                protein)
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Best Loc
Matches
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P01090;
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brassica napus (Rape).

Eukaryota; Viridiplantae; Streptophyta; Embryo Spermatophyta; Magnoliophyta; eudicotyledons; eurosids II; Brassicales; Brassicaceae;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-JUL-1986 (Rel. 01, Created)
01-MAR-1989 (Rel. 10, Last sequence up
01-AUG-1992 (Rel. 23, Last annotation
Napin 2 precursor (1.7S seed storage p
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   Crouch
                 STRAIN=CV. TOWER;
MEDLINE=84113267; PubMed=6689334;
                                                                                                            precursor
                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE=87033665;
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
MEDLINE=87308224; PubMed=3624251;
Josefsson L.-G., Lenman M., Erics
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                                                       SEQUENCE FROM N.A.
                                                                                                                                                                  Ericson
                                                                                                                                                                                                                                          Submitted
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InterPro; IPR000617; Napin.
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                                                                                                                        "Structure of the
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"Structures of heat-stable and unstable homologues of t
protein mabinlin. The difference in the heat stability
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din J., Lenman M
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PIR; A29801; A29801.

PIR; A25997; A25997.

InterPro; IPR003612; AAI.

InterPro; IPR001768; Cereal_tryp_amyl_inh.

InterPro; IPR000617; Napin.

Pfam; PF00234; tryp_alpha_amyl; 1.

PRINTS; PR00496; NAPIN.

PRINTS; PR00496; NAPIN; 1.
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CONFLICT
SEQUENCE
                        Ericson M. "Analysis
                                                                                                                                                      Spermatophyta; Magnollophyta; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosia eurosids II; Brassicales; Brassicaceae.
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01-AUG-1992 (Rel.
16-OCT-2001 (Rel.
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J. Mol. Appl. Genet. 2:273-283(1983).
-i-FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPINS
TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED 1
                                                            SEQUENCE FROM N.A.
STRAIN=CV. SVALOFS KARAT 20516-K;
MEDLINE=91231016; PubMed=2029903;
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EMBL; J02586; AAA32997.1; -.
EMBL; J02798; AAA87348.1; -.
EMBL; A01329; NWRP2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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TISSUE SPECIFICITY: COTYLEDONS AND SIMILARITY: BELONGS TO THE 2S SEED
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RESULT 11
CG2S_LUPAN
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Expression of the BnmWAP subfamily of napin genes induction of Brassica microspore embryogenesis."; Plant Mol. Biol. 26:1711-1723(1994).
                                                                                                                                                Lupinus angustifolius (Narrow leaved blue lup
Eukaryota; Viridiplantae; Streptophyta; Embryv
Spermatophyta; Magnoliophyta; eudicotyledons;
eurosids I; Fabales; Fabaceae; Papilionoideae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content modified and this statement is not removed. Usage by are entitles requires a license agreement (See http://www.isb
                                                                  Lilley G.G., Inglis A.S.; "Amino acid sequence of conglutin of Lupinus angustifolius L. Sequer
                                                                                                                                                                                             01-MAR-1989 (Rel. 10, Created)
01-MAR-1989 (Rel. 10, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Conglutin delta-2 small chain.
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CHAIN
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EMBL; U04945; AAA81909.1;
PIR; S10018; S10018.
                                            amylase inhibitor from wheat."; FEBS Lett. 195:235-241(1986).
                                                                                          STRAIN=CV.
Lilley G.G
                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                         CG2S_LUPAN
                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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                                                                                                                                        NCBI_TaxID=3871;
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InterPro; IPR000617;
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                                                                                                                                                                                                                                                                                                                47 CRKEFQQAQHLKACQQWLHKQAMQSGSGP 75
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         SUBUNIT: DIMER OF A DISULFIDE BONDS. SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LINKED BY DISULFIDE BONDS.
TISSUE SPECIFICITY: COTYLEDONS AND
SIMILARITY: BELONGS TO THE 2S SEED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED ITS MATURATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBUNIT: THE MATURE PROTEIN CONSISTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
A23617;
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12; Conserv
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                                                                                                      WHITE;
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          ТО
                                 SMALL CHAIN AND A LARGE CHAIN LINKED BY
                                                                                                                                                                                                                                                                                                                                                                                                                      WW;
            THE
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                                                                   Sequence
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6F3883CBED55FB26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Multigene family
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          2s
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                                                                              delta,
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ta; Embryophyta; Tracheophyta;
tvledons; core edicots; Rosid
                                                                 lta, a sulfur-rich
homology with the
                                                                                                                                                                                                                                                         37
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          STORAGE
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2SS3_CAPMA
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Capparis masaikai (Mabinlang).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid spermatophyta; Brassicales; Brassicaceae; Capparis.
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seed.
DISULFID
DISULFID
                                                                                                                                                                                                                                                       Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z., "Structures of heat-stable and unstable homologues of t protein mabinlin. The difference in the heat stability replacement of a single amino acid residue."; Eur. J. Biochem. 223:989-995(1994).
                                                                                                                                                        Seed
                                                                                                                                                               ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                         InterPro; IPR003612; AAI.
InterPro; IPR000617; Napin.
Pfam; PF01631; Seedstore_2S;
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16-OCT-2001
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01-FEB-1995
                                                                                                                                      NON_CONS
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CRRQFQQHQHLRACQRYLRRRAQRGG
                                     Similarity 42.1
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    Last sequence update)
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    B chains (MAB III) (Sweet

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Pred. No. 0.01:
7; Mismatches
                                     6,
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89784D55A5A1493A
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INTERCHAIN
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C-18 OF LARGE
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RESULT 13 2SS4_CAPMA ID 2SS4_CAPMA

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01-FEB-1995 (Rel. 31

01-FEB-1995 (Rel. 31

16-OCT-2001 (Rel. 40

Mablinlin IV, A and E
                                                                                                                                                                         2SS1_BRANA STANDARD; PRT; 133 AA. P01091; P01091; 21-JUL-1986 (Rel. 01, Created) 21-JUL-1986 (Rel. 01, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Napin 1 precursor (1.7S seed storage protein)
                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
DISULFID
DISULFID
DISULFID
SEQUENCE
        Crouch M.L., Tenbarge K.M., Simon A.E., Ferl R.;

"CDNA clones for Brassica napus seed storage proteins: evidence from nucleotide sequence analysis that both subunits of napin are cleaved from a precursor polypeptide.";

J. Mol. Appl. Genet. 2:273-283(1983).
                                                     STRAIN-CV. TOWER;
STRAIN-CV. TOWER;
MEDLINE-84113267; PubMed-6689334;
MEDLINE-84113267; PubMed-6689334;
MEDLINE-84113267; PubMed-6689334;
                                                                                                                                                                                                                                                         BRANA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z., "Structures of heat-stable and unstable homologues of t protein mabinlin. The difference in the heat stability replacement of a single amino acid residue."; Eur. J. Biochem. 223:989-995(1994).

-i- FUNCTION: HEAT STABLE 2S SEED STORAGE PROTEIN HAVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Capparis masaikai (Mabiniang).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eueurosids II; Brassicales; Brassicaceae; Capparis.

NCBI_TaxID=13395;
                                                                                                                                 Brassica napus (Rape).
Eukaryota; Viridiplantae; Stre
Spermatophyta; Magnoliophyta;
eurosids II; Brassicales; Bras
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF01631; Seedstore_2S;
                                                                                             SEQUENCE FROM N.A.
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ProDom; PD002498; Napin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -!- SIMILARITY: BELONGS TO THE InterPro; IPR003612; AAI. InterPro; IPR000617; Napin.
                                                                                                                     NCBI_TaxID=3708;
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 function:
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SM00499; AAI; 1.
Smotein; Albumin;
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nilarity 41.4%;
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Last annotation updat
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 BASIC,
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BY SIMILARITY
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ABINLIN IV, A
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 WATER-SOLUBLE
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RESULT 15
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SEQUENCE
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Submitted
                                                                                                and
                                                                                                                          STRAIN=CV. C24;
Krebbers E., Herdies
van Damme J., Segura
                                                                                                                                                                                    Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embry.
Spermatophyta; Magnoliophyta; eudicotyledons;
eurosids II; Brassicales; Brassicaceae; Arabi
                                                                                                                                                                                                                         01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence up
16-OCT-2001 (Rel. 40, Last annotation
25 seed storage protein 1 precursor (2
(NWMU2-25 albumin 1).
AT251 OR AT4G27140 OR T24A18.90.
                                                                                                                                                                                                                                                                                      2SS1_ARATH P15457;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (So or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
         SEQUENCE FROM N.A. STRAIN-CV. COLUMBIA;
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STRAIN-CV. C24;
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SMART; SM00499; AAI; 1.
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                                                                                                       van Damme J., Segura N
Vandekerckhove J.;
"Determination of the
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InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR000617; Napin.
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                                                                                     characterization nt Physiol. 87:85
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SUBUNIT: THE MATURE
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                                     A.D.S., Krebbers (JUL-1993) to the
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8; Mismatches
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RA MOOLJMAN P. Klein Lankhorst R., Rose M., Hauf J., Koetter P.,
RA Mooljman P., Klein Lankhorst R., Rose M., Hauf J., Koetter P.,
RA De Keyser A., Buysshaert C., Gielen J., Villarroel R., De Clercq R.,
RA De Keyser M., Rogers J., Cronin A., Quail M., Bray-Allen S.,
RA Van Montagu M., Rogers J., Cronin A., Quail M., Bray-Allen S.,
RA Pettett A., Rajandream M.A., Lyne M., Benes V., Rechmann S.,
RA Pettett A., Rajandream M.A., Lyne M., Benes V., Rechmann S.,
RA Dose S., de Haan M., Maarse A.C., Schaefer M., Mueller-Auer S.,
RA Dose S., de Haan M., Maarse A.C., Schaefer M., Mueller-Auer S.,
RA Gabel C., Fuchs M., Fartmann B., Granderath K., Dauner D., Herzl A.,
RA Massenet O., Quigley F., Clabauld G., Muendlein A., Felber R.,
RA Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A.,
RA Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A.,
RA Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Torres A.,
RA Perez-Perez A., Purnelle B., Bent E., Johnson S., Tacon D., Jesse T.,
RA Perez-Perez A., Purnelle B., Bent E., Johnson S., Tacon D., Jesse T.,
RA Parnell L., Dedhia N., Gnoj L., Schutz K., Huang E., Spiegel L.,
RA Schnah S., Marray J., Sheef L., Cordes M., Abu-Threideh J.,
RA Stoneking T., Kalicki J., Graves T., Harmon G., Edwards J.,
RA Latreille P., Courtney L., Cloud J., Abbott A., Scott K., Johnson D.,
RA Minx P., Bentley D., Fulton B., Miller N., Greco T., Kemp K.,
RA Minx P., Bericki J., Ryan E., Jandrews S., Geisel C., Layman D.,
RA Ma P., Zhong J., Preston R., Vil D., Shekher M., Matero A., Shah R.,
RA Ma P., Zhong J., Preston R., Rodriguez M., Hoffman J., Tshah C.,
RA Ma P., Zhong J., Preston R., Kenber M., Matero A., Shah R.,
RA Chen E., Marra M., Martienssen R., McCombie W.R.;
RT Sequence and analysis of chromosome 4 of the plant Arahidonsis
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_a
InterPro; IPR000617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00496; NAPIN.
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                                                                                                                                                                                    PIR; JA0161; NWMU1.
PIR; S34676; S34676.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   modified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -1- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-1- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND LINKED BY DISULFIDE BONDS.
-1- MISCELLANEOUS: THIS IS THE MOST ABUNDANT ISOFORM OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Van der Schueren J., Grymonprez B., Chuang Y.-J., Vandenbussche
Braeken M., Weltjens I., Voet M., Bastlaens I., Aert R., Defoor
Weltzenegger T., Bothe G., Ramsperger U., Hilbert H., Braun M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SIMILARITY: BELONGS TO THE 2S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nature 402:769-777(1999)
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Mooijman P., Klein Lankhorst R., Rose M., Hauf J., Koetter P
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                                                                                                                                                                                                                                                          AL161566; CAB79569.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s requires a license agreement (See http://www.isb-sib.ch/announce/
an email to license@isb-sib.ch).
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Bancroft I.,
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                                          Query Match
Best Local (
                                  Matches
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41 PKMRKCRKEFQKEQHLRACQQLMLQQ
                 1 PSQQGCRGQIQEQQNLRQCQEYIKQQ
                                                                                                                                        storage
                                                                                                                                                 SM00499; AAI; 1.
                                           Similarity
                                  Conservative
                                                                                                                                       protein;
                                                                             19014
                                           36.1%;
42.3%;
                                                                                                                                        Albumin; Signal; Multigene family
                                                                            MW;
                                           Score 66;
Pred. No.
                                                                                               2s
                                                                            2BF28CB474D9832B
                 26
66
                                                                                              SEED STORAGE PROTEIN 1 LARGE SUBUNIT
                                  Mismatches
                                                                                                              SEED STORAGE PROTEIN 1 SMALL SUBUNIT
                                           0
                                           DB 1;
0.08;
                                  8
                                                  Length 164
                                  Indels
                                  0
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Search completed: Job time: 308 sec September 9, 2002, 12:46:06

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Result
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length:
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1: sp_archea:*

2: sp_bacteria

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4: sp_human:*

5: sp_inverteb:

6: sp_mammal:*

7: sp_mhc:*

8: sp_organel.*

9: sp_plant:*

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11: sp_rodent:

11: sp_verteb:

13: sp_verteb:

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17: sp_archeap
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Match
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p93198 juglans r
Q39795 gossyptum
Q39795 gossyptum
Q89795 brassica
Q9s9f2 brassics a
Q41196 sinapis a
Q41277 sinapis a
Q41279 sinapis a
Q41279 sinapis a
Q41279 sinapis a
Q41280 sinapis a
Q41160 raphanus
Q41169 raphanus
Q41169 brassica
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Q42665 brassica
Q4266 brassica
Q4266 brassica
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5 gossypium h
2 brassica na
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6 sinapis alb
7 sinapis alb
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ALIGNMENTS

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RESULT
P93198
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Best Local Similarity
Matches 34; Conserv
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Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAY-2000 (TrEMBLrel. 14, Last annotation update)
Q1-JUN-2000 (TrEMBLrel. 13, Created)
Q1-JUN-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
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                                P93198;
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MEDIJINE-97135090; PubMed-8980648;
Meumann G.M., Condron R., Polya G.M.;
Purification and sequencing of napin-like protein small and large chains from Momordica charantia and Ricinus communis seeds and determination of sites phosphorylated by plant Ca(2+)-dependent protein kinase.";
Biochim. Biophys. Acta 1298:223-240(1996).

SEQUENCE 35 AA; 4044 MW; 992B9BABD6A68FD3 CRC64;
01-MAY-1997 (TrEMBLrel. 03, Created)
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milarity 100.0%;
Conservative 0;
                                                                   PRELIMINARY;
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Pred.
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SEQUENCE
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                                                                                                                                                                                                                                                                                                            Eukaryota; Viridiplantae; Streptophyta; Embryo
Spermatophyta; Magnoliophyta; eudicotyledons;
eurosids II; Malvales; Malvaceae; Gossypium.
                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation updat
2S ALBUMIN STORAGE PROTEIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                      Q39795
Q39795;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALBUMIN SEED STORAGE PROTEIN (FRAGMENT).

Juglans regia (English walnut).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidentsids I; Fagales; Juglandaceae; Juglans.

NCBI_TaxID=51240;
                                                                                                                                                       InterPro; IPR003612; AAI.
InterPro; IPR003618; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
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InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR000480; Glutelin.
Pfam; PF00234; tryp_alpha_amyl; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Juglans regia 2S albumin seed storage protein precursor."; Submitted (AUG-1996) to the EMBL/GenBank/DDBJ databases. EMBL; U66866; AAB41308.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1997 (TrEMBLrel. 03, Last sequence update) 01-DEC-2001 (TrEMBLrel. 19, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00211; GLUTELIN. SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=CV. SUNLAND;
Teuber S.S., Dandekar A.M.,
                                                                                                                                  SIGNAL
                                                                                                                                             Signal
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Conservative
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2S ALBUMIN STORAGE I
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                                                                                                                                                                                                                                                                                                                                     Tracheophyta;
                                                                                                                                                                                                                                          methionine-rich
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                                     0;
                                                                                                                                                                                                                                                                                                                           Rosidae;
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RESULT
Q9S9F2
        ID ACCOMENDATE DITEMPT OF THE REPORT OF THE 
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-i- TISSUE SPECIFICITY: COTYLEDONS AND THE AXIS.

-i- SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS F.

InterPro; IPR003612; AAI.

R InterPro; IPR001618; Cereal_tryp_amyl_inh.

R InterPro; IPR000617; Napin.

R Pfam; PF00234; tryp_alpha_amyl; 1.

R PFNMTS; PR00496; Napin; 1.

R PRIMTS; PM00496; Napin; 1.

R PRODOm; PD002498; Napin; 1.

R SMART; SM00499; AAI; 1.

SMART; SM00499; AAI; 1.

SMART; SM00499; AAI; 1.

GHAIN

1 37

CHAIN

1 38

125

LARGE CHAIN.

1 125

SEQUENCE 125 AA; 14035 MW; C4042A1BF07099E8 CRC64;
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Best Local
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Q9S9F2;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Monsalve R.I., Gonzalez de la Pena M.A., Lopez Fernandez C., Villalba M., Rodriguez R.; "Detection, isolation and complete amino acid aeroallergenic protein from rapessed flour."; Clin. Exp. Allergy 27:833-841(1997).
-I- FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 18, Last sequence update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
01-OCT-2001 (TrEMBLrel. 18, Last annotation update)
NAPIN BNIII (1.7S SEED STORAGE PROTEIN).
Brassica napus (Rape).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosida
eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                            Brassica napus (Rape).
Bukaryota; Viridiplantae; Streptophyta; Embryophyta;
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eu
eurosids II; Brassicales; Brassicaceae; Brassica.
NCBI_TaxID=3708;
                                                                                                                                                                                                                                                                                         01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UN-2001 (TrEMBLrel. 17, Last annotation update)
NAPIN SHORT CHAIN S3A-CALMODULIN ANTAGONIST/CALCIUM-DEPENDENT PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P80208;
01-MAR-2001
  MEDLINE=96283790; PubMed=8679670;
Neumann G.M., Condron R., Thomas
"Purification and sequencing of m
                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                KINASE SUBSTRATE
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les 13; Conserv
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SUBUNIT: THE MATURE PROTEIN CONSISTS OF
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dron R., Thomas I., Poly sequencing of multiple
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43.3%;
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     Polya G.M.;
iple forms of
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        Brassica napus
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                                                                                                                                                                                          Rosidae;
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Best Local S
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                                                                                                                Q41281;
Q41281;
Q41281;
Q1-NOV-1996 (TrEMBLrel. 01, Last e
01-NOV-1996 (TrEMBLrel. 19, Last e
01-DEC-2001 (TrEMBLrel. 19, Last e
ALLERGEN SIN A 1.0108 (FRAGMENT).
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01-NOV-1996 (TrEMBLrel. 01, Created
01-NOV-1996 (TrEMBLrel. 01, Last s
01-OCT-2001 (TrEMBLrel. 18, Last a
MAJOR ALLERGEN SIN A I (FRACKENT)
                 Sinapis alba (White mustard) (Brassica I
Bukaryota; Viridiplantae; Streptophyta;
Spermatophyta; Magnoliophyta; eudicotyle
eurosids II; Brassicales; Brassicaceae;
NCBI_TaxID=3728;
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SEQUENCE
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Eukaryota; Viridipiantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core en
eurosids II; Brassicales; Brassicaceae; Sinapis.
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PRINTS; PR00496; NAPIN.
ProDom; PD002498; NAPIn; 1.
SMART; SM00499; AAI; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=93151856; PubMed=8093997;
Gonzalez de la Pena M.A., Villalba M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        napin small chains that are calmodulin plant calcium-dependent protein kinase. Blochim. Blophys. Acta 1255:23-33(1956) SEQUENCE 40 AA; 4620 MW; BC7E47D338
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l3; Conservative
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IPRO01768; Cereal_tryp_amyl_inh.
IPR000617; Napin.
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145 AA;
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                                         Brassicaceae; Sinapis
                                                                                                                                                                  Created)
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                                                           (Brassica hirta).
eptophyta; Embryophyta;
eudicotyledons; core e
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0.017;
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                                                           n; Tracheophyta;
eudicots; Rosid
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Best Local S
Matches 13
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Best Local S
Matches 13
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                                                                                                                                                                                                                                                                                                Sinapis alba (White mustard) (Brassica hirta).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core evenosids II; Brassicales; Brassicaceae; Sinapis.
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InterPro;
                                                                                         SEQUENCE
                                                                                                                       PRINTS; PRO0496; NAPIN. ProDom; PD002498; Napin; SMART; SM00499; AAI; 1.
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J. Biol. Chem. 237:827
EMBL; X91799; CAA62909
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Rodriguez R.;
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EMBL; X91798; CAA62908
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Rodriguez R.;
                                                                                                                                                              InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
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PRINTS; PR00499; NAPIN.
ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
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TISSUE-SEED;
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InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                           Expression in Escherichia
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10 CRKEFQQAQHLRACQQWLHKQAMQSGSGP
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                  CRGQIQEQQNLRQCQEYIKQQV--SGQGP
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145 AA;
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                                       Conservative
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                                                                                                                                                                                                        237:827-832(1996).
                                                                                                                                                                                                                                                Peya M.A., Monsalve
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                                                 38.8%;
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0.017;
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eudicots; Rosid
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Sinapis alba (White mustard) (Brassica hirta).
Sinapis alba (White mustard) (Brassica hirta).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids II; Brassicales; Brassicaceae; Sinapis.
PRINTS;
ProDom;
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Q41278;
                                        Pfam; PF00234; tryp_alpha_amyl; PRINTS; PR00496; NAPIN.
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01-NOV-1996 (TrEMBLrel. 01,
01-DEC-2001 (TrEMBLrel. 19,
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InterPro; IPR003612; AAI.
InterPro; IPR003618; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
InterPro; IPR000617; Napin.
IPR00324; tryp_alpha_amyl; 1.
PRINTS; PR00496; NAPIN.
PRINTS; PR00496; Napin; 1.
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ALLERGEN SIN A 1.0105 (F
                                                                                                                      J. Biol. Chem. 237:827-832(1996).
EMBL; X91801; CAA62911.1; -.
InterPro; IPR003612; AAI.
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                                                                                                   InterPro;
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Rodriguez R.;
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Rodriguez R.;
                                                                                 InterPro; IPR000617; Napin.
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                      PR00496; N
PD002498;
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llarity 44.8%;
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Pred. No. 0.017;
7; Mismatches
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Sinapis alba (White mustard) (Brassica hirta).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

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TISSUE-IMMATURE SEED;

RAYNAL M., Depigny D., Grellet F., Delseny M.

Raynal M., Depigny D., Grellet F., Delseny M.

"Characterization and evolution of napin-encorelated crucifers.";

Gene 99:77-86(1991).

EMBL; M63842; AAA63471.1; -.

InterPro; IPR003612; AAI.

InterPro; IPR001768; Cereal_tryp_amyl_inh.

InterPro; IPR00177; Napin.

Pfam; PF00234; tryp_alpha_amyl; 1.

PRINTS; PR00496; NAPIN.

SMART; SM00499; AAI; 1.
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FISSUE-IMMATURE SEED;

MEDLINE-91216448; PubMed-2022325;

RAYNAL M., Depigny D., Grellet F., Delseny M.;

"Characterization and evolution of napin-encoding genes in radish and related crucifers.";

Gene 99:77-86(1991).

EMBL; M63843; AAA63472.1; -.
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CHAIN
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Bukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eueurosids II; Brassicales; Brassicaceae; Raphanus.
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01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
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                                     CRGQIQEQQNLRQCQEYIKQQV--SGQGP
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IPR001768; Cereal_tryp_amyl_inh.
IPR000617; Napin.
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STORAGE PROTEIN LARGE SUBUNIT.
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Best Local Similarity 41.:
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Q959F1;
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Q959F1;
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAY-2000 (TrEMBLrel. 13, Last annotation update)
NAPIN SHORT CHAIN S4-CALMODULIN ANTAGONIST/CALCIUM-DEPENDENT PROTEIN
NAPIN SHORT CHAIN S4-CALMODULIN ANTAGONIST/CALCIUM-DEPENDENT PROTEIN
NAPIN SHORT CHAIN S4-CALMODULIN ANTAGONIST/CALCIUM-DEPENDENT PROTEIN
NAPIN SHORT CHAIN S4-CALMODULIN ANTAGONIST/CALCIUM-DEPENDENT PROTEIN
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Q42469;
01-NOV-1996
01-NOV-1996
                                                                  MEDLINE=96283790; PubMed=8679670;
Neumann G.M., Condron R., Thomas I., Polya G.M.;
Purification and sequencing of multiple forms of E
napin small chains that are calmodulin antagonists
plant calcium-dependent protein kinase.";
Biochim. Biophys. Acta 1295:23-33(1996).
SEQUENCE 41 AA; 4652 MW; 8BC6738503380553 CRC64
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InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000176; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00496; NAPIN.
ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
SMART; SM00499; AAI; 1.
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MEDLINE-95161697; PubMed-7858212;
MEDLINE-95161697; PubMed-7858212;
MEDLINE-95161697; PubMed-7858212;
                                                                                                                                                                                                                Brassica napus (Rape).

Brassica viridiplantae; Streptophyta; Embryophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core everosids II; Brassicales; Brassicaceae; Brassica.
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"Expression of the BnmNAP subfamily of napin genes induction of Brassica microspore embryogenesis.";
Plant Mol. Biol. 26:1711-1723(1994).
EMBL; U04944; AAA81908.1;
EMBL; U04943; AAA81907.1; -.
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid eurosids II; Brassicales; Brassicaceae; Brassica.
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01-NOV-1996 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
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Qy 6 CRGQIQEQQNLRQCQEYIKQQV----SGQGP 32
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||Db 10 CRKEFQQAQHLRACQQWLHXQAMQFGSGSGP 40

Search completed: September 9, 2002, 12:45:37

Job time: 294 sec

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Result
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1: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1980.DAT:*

2: /SIDS1/gcgdata/hold-geneseq/geneseqp-embl/AA1981.DAT:*

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Gapop 10.0 , Gapext 0.5
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Mabinlin MBLII from Mabinlin mBLIII fr Modified Brazil nut 12 kD s Synthetic 12 Kd pr Modified Brazil nu Wild-type Brazil nu Wild-type Brazil nu Part of the sequen Synthetic 2S seed Modified Brazil nu
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Naprii procerii	AAA34900	Ļ	TOY	27.0	94.3	4
Napin	NAR5/08/0	2 A	104	37.0	о ч л и	4 A
Sequence encoded b	AAP81140	2 0	189 189	٠.	96.5	43
ъ.	AAB85931	22	184	27.6	96.5	42
Brassica campestri	AAW30526	19	184	7.	96.5	41
Napin encoded	AAW15415	18	184	7.	96.5	40
8.	AAR76694	16	184	7.	96.5	39
Napin	AAR54981	15	184	7.	96.5	38
Napin	AAR14193	12	184	7.	96.5	37
Albumin-type prote	AAR33390	14	175	8	99	36
Peanut allergen	AAB82383	22	207	8	101	35
Recombinant Ara	AAY40968	20	166	8	101	34
Anaphylactic antig	AAU04707	22	157	8	101	33
Peanut	AAY15245	20	157	ω.	101	32
Peanut	AAW24153	18	157	8	101	31
Peanut	AAW24164	18	157	8	101	ö
Ara	AAY40973	20	156	8	101	29
Modified	AAU04710	22	167	9	104	28
Modified	AAU05035	22	166	9.	104	27
Modified	AAB33600	21	166	9	104	8
Mabinlin	AAW23587	18	155	0	106.5	25
Mabinlin	AAW10569	18	155	0	106.5	24
Serine substituted	AAY58050	21	148	0	108	23
Puroindoline B	AAY58049	21	148		108	22
Sequence encoded	AAP96144	10	164	۲	112	21
Amino acid sequenc	AAP91892	10	164	۲.	112	20
Modified	AAW86274	19	149	ω	117.5	9
Castor	AAB15422	21	83		121	8
Modified	AAW86265	19	111	7.	129.5	17
Modified	AAW86266	19	111	.7	•	6
Modified	AAW86273	19	149	.7	•	5
Modified	AAW86272	19	149	7.	•	14
Modified	627	19	111	37.3	130.5	13
Modif	AAW86268	19	111	7.	0	12

ALIGNMENTS

RESULT AAB15423

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AAB15423 standard; peptide;

65 ΑA

AAB15423;

New glycoconjugate, useful for treating immunological disorders, comprises polysaccharide from Candida utilis and polypeptide from WPI; 2000-558369/51. Brieva Delgado A, Pivel Ranieri JP, 21-OCT-1999; . 31-AUG-2000. polysaccharide; mannose; galactose; castor bean; immune response; human; 2S albumin storage protein; animal; tumour necrosis factor; mononuclear; phagocyte; granulocyte; macrophage; tumour; immunogen; Candida utilis. Castor bean 2S albumin storage protein amino acids 194-258 (INFA-) IND FARM CANTABRIA SA. 26-FEB-1999; WO200050087-A1 Ricinus communis. Antitumour; antimicrobial; immunostimulatory; glycoconjugate; mannose; 17-JAN-2001 (first entry) 99ES-0000408. 99WO-ES00338 Gimenez Gallego Garcia Villarrubia V, Guerrero Gomez-Pamo A; Gimenez Gallego G, Matji Tuduri JA;

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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the consensus sequence:

ac2bC(QERK)Z(Z')(LIVM)ZcCC(Z'')(QEH)(LV)Z6C2CZZdGZeCZ(VIIM)ZfCZg
where Z = any amino acid (aa); Z' = hydrophobic aa; Z'' = hydrophilic aa;

a = 3.48; b = 9.13; c = 15-39; d = 13-56; e = 15-26; f = 1.8; g = 1-11;
the parentheses indicate the preferred sequence. This sequence
corresponds to amino acids 194-258 of the Ricinus communis (castor bean)
2S albumin storage protein which is used to generate the glycoconjugate
of the invention, with a polysaccharide from Candida utilis. (A) modifies
the immune response in humans and animals, especially it reduces the
amount of tumour necrosis factor (TNF) produced and stimulates the
mononuclear-phagocyte system and expands the granulocyte-macrophage
compartment. (A) are used for treating disorders of the immune system,
e.g. infections and tumours. (A) do not interfere with metabolic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a novel glycoconjugate (A) comprising a 50-250 kDa polysaccharide (PS), containing one phosphate group per 5-25 monosaccharide units, and a polypeptide (PP) having a particular consensus sequence. In PS, at least 40% of the monosaccharide residues are mannose and the remainder are glucose and/or galactose. The main chain comprises 1-6 links, with less than 60% 1,2-branching. The PP has
WO9700945-A1.
                                            Region
                                                                                       Region
                                                                                                                                                                                                                                                                                                                                                                                                                AAW23586 standard; Protein; 158 AA.
                                                                                                                                                  Protein
                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                            Capparis
                                                                                                                                                                                                                                                            pharmaceutical.
                                                                                                                                                                                                                                                                       MBL; sweetener; transgenic plant; recombinant protein; food, beverage; animal feed; chewing gum; dental hygiene product;
                                                                                                                                                                                                                                                                                                                        Mabinlin
                                                                                                                                                                                                                                                                                                                                                       30-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       processes in the liver and are active when given orally. PP significantly increases the antigenic response to weakly immunogenic PS, including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 3; Page 30; 38pp; Spanish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
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                                                                                                                                                                                                                             masaikai.
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                                                                                                    /label= MBLI
40..70
/label= A_chain
                                                                                                                                                 /label= Signal
40..158
                                                                         /note-
                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                     Capparis masaikai.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                         "14 amino acids evidently lost when mature dimer is formed"
                              B_chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             modulate the expression of the gene encoding MBL in a cell or tissue. Mabinlin comes from the seeds of the Capparis masaikai plant, and is limited by its native availability, and so methods for producing recombinant mabinlin protein are being produced using chimeric genes such as MBLII (see AAT60776). The products provide recombinant materials for the production of the MBL protein in practical amounts, and for the production of transgenic plants containing inherently sweet edible parts by virtue of production of MBL in situ. The MBL protein can be used to sweeten foods, beverages, animal feeds, chewing gum, dental hygiene
                                                                                                                     Key
                                                                                                                                                                     beverage; animal feed; pharmaceutical.
                           Region
                                                                                                                                           Capparis masaikai
                                                   Region
                                                                             Protein
                                                                                                      Peptide
                                                                                                                                                                                                MBL; sweetener;
                                                                                                                                                                                                                       Mabinlin MBLIII from Capparis masaikai.
                                                                                                                                                                                                                                                    30-SEP-1997
                                                                                                                                                                                                                                                                                                       AAW23588 standard; Protein; 158 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence represents the mabinlin MBLI. The encoding cDNA can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mabinlin nucleotide sequences - for prodn. of transgenic plants recombinant proteins, useful as sweeteners, partic. in foods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1997-087372/08
N-PSDB; AAT60775.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYHA-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-JUN-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                           87
                                                                                                                                                                                                                                                                                                                                                                                                                                        1 QER--SLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQG-QDVFEAFRTAANLPSMCG 57
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                                                                                                                                                                                                                                                 (first entry)
                                      /label= MBLIII
40..70
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                                                                                                                                                                                 transgenic plant; recombinant protein; l feed; chewing gum; dental hygiene pro
                                                                            /label= Signal
40..158
                                                                                                                 Location/Qualifiers
               /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           38.9%; Score 136; DB 18;
43.5%; Pred. No. 1.8e-09;
tive 13; Mismatches 22;
* "14 amino a
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  acids evidently lost when mature
formed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 158;
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RESULT
AAW86269
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Best Local S
Matches 30
                                                                                                                                                                                                                                                    Brazil Nut 2S albumin; seed storage protein; modified; BNCNSS; BN11 BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; AT2S1BN153W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence represents the mabinlin MBLIII. The encoding cDNA can modulate the expression of the gene encoding MBL in a cell or tissue. Mabinlin comes from the seeds of the Capparis masaikai plant, and is limited by its native availability, and so methods for producing recombinant mabinlin protein are being produced using chimeric genes such as MBLII (see AAT60776). The products provide recombinant materials for the production of the MBL protein in practical amounts, and for the production of transgenic plants containing inherently sweet edible parts by virtue of production of MBL in situ. The MBL protein can be used to sweeters foods beverages animal feeds chewing cure destroy be seed to
                          06-APR-1998;
                                                                     15-OCT-1998.
                                                                                                                                                                                    Bertholletia excelsa
                                                                                                                                                                                                                                 chimeric; dietary protein; essential amino acid.
                                                                                                                                                                                                                                                                                                                        Modified Brazil nut 2S albumin gene BN18 amino acid sequence.
                                                                                                                                                                                                                                                                                                                                                                             01-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                          AAW86269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW86269 standard;
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                                                                                                                   W09845458-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mabinlin nucleotide sequences - for prodn. of transgenic plants recombinant proteins, useful as sweeteners, partic. in foods
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and pharmaceuticals.
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                          98WO-US06673
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Pred. No. 3.3e-09;
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14-FEB-1991;
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Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to modified Brazil Nut 2S albumin seed storage proteins and nucleic acids encoding the modified proteins. The modified Brazil nut 2S albumin proteins are rich in essential amino acids and the Brazil nut 2S albumin proteins are rich in essential amino acids and the
19-SEP-1991
                                                                                                                                                                                                                                        growth
                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                     AAR14111 standard; Protein; 93 AA.
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                                       WO9113993-A.
                                                                                                Region
                                                                                                                                                            Key
                                                                                                                                                                                                                                                      Expression cassette; tryptophan; foodstuff; bovine somatotropin;
                                                                                                                                                                                                                                                                                                Brazil nut 12 kD sulfur-rich seed storage protein, BZ-3.
                                                                                                                                                                                                                                                                                                                                         10-DEC-1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New modified Brazil Nut 2S albumin proteins - useful to provide transgenic seed crops whose proteins have increased levels of
                                                                                                                                       Region
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERSLRGCCDHLKQMQSQCRCEGLR-QAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSP 60
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                                                                                                                                                        Location/Qualifiers
                                                                                /label= BZ-1
                                                                                                                   /label= BZ-2
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35.4%;
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Pred. No. 2.5e-09;
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91WO-US00887

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RESULT
AAR62762
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The fragments were complemented, purified, and had NGOI sites added on both 5 and 3' ends using CCPR amplification. Each inframe NGOI site yields the codon TGG which encodes tryptophan, making resulting plant seed a more nutritionally complete foodstuff. The fragments were subjected to digestion with NGOI and cloned into NGOI cut expression cassettes. Plasmids conty. Such expression cassettes were transferred into vectors used for Agrobacterium systems or used with microprojectile bombardment of plant tissues.

The seed specific expression cassette is used for the prodn. of specified proteins in plants, e.g. bovine somatotropin in seed storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
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19-APR-1993;
                             19-APR-1994;
                                                                                     WO9424289-A.
                                                                                                                                              Stabilisation; toxic;
                                                          27-OCT-1994:
                                                                                                                                                                                                          07-JUL-1995
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                                                                                                                                                                         Synthetic 12 Kd precursor protein of Brazil nut.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 38; 58pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seed specific expression cassettes - having specific gene
regulatory elements for prodn. of proteins in plant seed storage
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                           94WO-FR00438
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                                                                                                                                              peroxisome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 132.5; DB 12;
Pred. No. 2.7e-09;
0; Mismatches 27;
                                                                                                                                              yeast; food additive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 12;
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AAW86271
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Matches
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            Misc-difference
                                              Misc-difference
                                                                                 Misc-difference
                                                                                                                    Misc-difference
                                                                                                                                                                                                    Bertholletia
                                                                                                                                                                                                                         chimeric; dietary protein; essential amino acid.
                                                                                                                                                                                                                                       Brazil Nut 2S albumin; seed storage protein; modified; BNCNSS; BN11 BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; AT2S1BN153W;
                                                                                                                                                                                                                                                                        Modified Brazil nut 2S albumin gene BN153KW amino acid
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                                                                                                                                                                                                                                                                                                                                               AAW86271 standard; Protein; 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Improving stability of protein or peptide in yeast - by expressing with a peroxisomal targetting sequence, allowing accumulation of unstable or toxic products, and new yeast strains useful as food additives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1994-341868/42.
N-PSDB; AAQ73069.
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                                                                                                                                                      Misc-difference
                                                                                                                                                                                         Synthetic
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The invention relates to modified Brazil Nut 2S albumin seed storage proteins and nucleic acids encoding the modified proteins. The modified Brazil nut 2S albumin proteins are rich in essential amino acids and the encoding genes selected from a group comprising of BNCNSS, BN11, BN15, BN17, BN18, BN19, BN153KW, ATZSIBN15, ATZSIBN19, ATZSIBN153W genes.
       Chimeric genes comprising a nucleic acid fragment encoding a modified Brazil nut 2S protein operably linked to suitable regulatory sequence
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                                                                                                                                                                                                    This represents a wild-type Brazil Nut 2S albumin seed storage protein. The invention relates to modified Brazil Nut 2S albumin proteins that are rich in essential amino acids and nucleic acids encoding the modified proteins. The modified Brazil nut 2S albumin selected from a group comprising of BNCNSS, BN11, BN15, BN18, BN15KW, AT2SIBN15, AT2SIBN19, AT2SIBN153W genes. Chimeric genes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ħ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .4e-09
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    useful to provide

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BNCNSS; BN11
AT2S1BN153W;
                                                                                                                                                           integrated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ot
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                                                                                                                                                                                    28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                      can
                                                                                                                                                                                                                                        BN19,
                                                                                                      þе
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Sequence

Query Match Best Local S

Similarity

37.9%;

Length

111;

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RESULT
AAP91891
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  Query Match
Best Local S
Matches 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                               The entire 2S-albumin storage protein precursor including signal peptide. It is to be inserted into plants under the control of a seed-specific promoter and expressed at high levels only or mostly in the seed forming stage and produced mostly in the seeds.
                                                                                                               Fig
                                                                                                                               Recombinant DNA expression in plants - using modified storage protein genes for heterologous polypeptide(s) in the seeds
                                                 Sequence
                                                                                                                                                                    N-PSDB;
                                                                                                                                                                                                                                                 20-OCT-1988;
                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Part
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAP91891 standard;
                                                                                                                                                                                             Vandekerckhove JS,
                                                                                                                                                                                                               (PLAN-) PLANT
                                                                                                                                                                                                                                 20-OCT-1987;
                                                                                                                                                                                                                                                                                      W08903887-A
                                                                                                                                                                                                                                                                                                                                 region
                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                             Key
                                                                                                                                                                                                                                                                                                                                                                                              Brazil nut.
                                                                                                                                                                                                                                                                                                                                                                                                               25-albumin; brazil nut; |
heterologous polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-APR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAP91891;
                                                                                                                                                                                                                                                                                                                                                                    Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                           pBN2S1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 mrc 102
  Local Similarity
nes 25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                             4; ; 121pp; English.
                                                                                                                                                                   1989-150783/20.
DB; AAN91699.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERSLRGCCDHLKQMQSQCRCEGLR-QAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ephmsecceqlegmdescrceglrmmmmrmqqeemqprgeqmrrmmrlaenipsrcnlsp 99
                                                                                                                                                                                                                                                                                                                                                                                                                                        t the sequence plasmid.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                 140 AA;
   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                               GENETIC SYST.
                                                                                                                                                                                                                                 87EP-0402348
                                                                                                                                                                                                                                                 88WO-EP00944
                                                                                                                                                                                                                                                                                                                                                  /note="signal peptide"
31..38
                                                                                                                                                                                                                                                                                                              /note="processing 44..136
                                                                                                                                                                                                                                                                                                                                /note="mature small subunit"
39..43
                                                                                                                                                                                                                                                                                                      /note="mature large subunit"
                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein; 140
          37.9%;
39.7%;
                                                                                                                                                                                             Krebbers
                                                                                                                                                                                                                                                                                                                                                                                                                                                  of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                        pBN2S1; storage protein gene;
  10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 132.5;
Pred. No. 3.4e
10; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brazil
           Score 132.5;
Pred. No. 4.4
                                                                                                                                                                                             Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
   Mismatches
                                                                                                                                                                                             Botterman
                                                                                                                                                                                                                                                                                                                        site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                 nut
.5;
4.4e-09;
27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 2S-albumin as encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5; DB 19;
3.4e-09;
hes 27;
                    DB 10;
                                                                                                                                        expressing
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                                                                                                                                                                                             Leemans
  Indels
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                    Length
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                    140;
  1;
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  Gaps
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  1;
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Query Match Best Local S Matches 30

30; Similarity

Conservative

14;

37.6%;

; Score 131.5; ; Pred. No. 7.6e 14; Mismatches

6e-09; DB 15; 17;

Length

171; 7;

Gaps

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RESULT 1
AAR53579
ID AAR5
 QΥ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                The sequence is that of a 2S seed storage protein with increased lysine content. The protein is synthesised from a set of partial DNA sequences capable of being assembled from a set of portial content and the protein is sampled by a second set of points assembled by a standard relationship to provide the complete DNA. The protein is translated as the straight chain shown and undergoes post translational modification to give the mature protein which has two subunits joined by
                                                                                                                                    Improving the content of an amino acid in a seed storage protein to enhance nutritional value - by replacing non-conserved DNA with DNA encoding the amino acid
Sequence
                       a di-sulphide bond.
                                                                                                                Disclosure; Fig 1; 33pp; English.
                                                                                                                                                                                   WPI; 1994-167470/20.
N-PSDB; AAQ63710.
                                                                                                                                                                                                                    Ballo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    oligonucleotides
                                                                                                                                                                                                                                                                                                              11-MAY-1994
                                                                                                                                                                                                                                                                                                                                    WO9410315-A
                                                                                                                                                                                                                                                                                                                                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
                                                                                                                                                                                                                                          (PION-) PIONEER HI-BRED INT INC
                                                                                                                                                                                                                                                                23-OCT-1992;
                                                                                                                                                                                                                                                                                      22-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nutrition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR53579;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR53579 standard; Protein; 171 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                 Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ERSLRGCCDHLKQMQSQCRCEGLR-QAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mrc 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TEC 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ephmsecceqlegmdescrceglrmmmnrmqqeemqprgeqmrrmmrlaenipsrcnlsp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2S seed storage protein.
 171 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                non-conserved DNA; assembly;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                92US-0965664
                                                                                                                                                                                                                                                                                      93WO-US10090
                                                                                                                                                                                                                                                                                                                                                                                          1..38
/note= "signal
75..84
                                                                                                                                                                                                                                                                                                                                                                     /note=
171
                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "small subunit"
85..170
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers 39..74
                                                                                                                                                                                                                                                                                                                                                           /note=
                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "large subunit"
                                                                                                                                                                                                                                                                                                                                                          "excised at protein maturity"
                                                                                                                                                                                                                                                                                                                                                                               "linker excised as protein folds"
                                                                                                                                                                                                                                                                                                                                                                                                      peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                crude;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                degenerate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              128
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RESULT 11
AAW86267
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                    Chimeric genes comprising a nucleic acid fragment encoding a modified Brazil nut 28 protein operably linked to suitable regulatory sequences, integrated into the genome of a transformed plant can be used in methods for increasing the essential amino acid content of seeds. The products can be used to provide a human and animal dietary protein in seed crop plants that is relatively high in essential amino acid content. The present sequence represents the amino acid sequence of a modified Brazil Nut 28 albumin gene BN15. The modified BN15 has contains 15 Arg
                                                                                                                                                                                                                                                                                                                 The invention relates to modified Brazil Nut 2S albumin seed storage proteins and nucleic acids encoding the modified proteins. The modified Brazil nut 2S albumin proteins are rich in essential amino acids and the encoding genes selected from a group comprising of BNCNSS, BN11, BN15, BN19, BN19, BN195KW, AT2S1BN15, AT2S1BN19, AT2S1BN153W genes.
                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 6; Fig 4; 80pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                New modified Brazil Nut 2S albumin proteins - useful to provide transgenic seed crops whose proteins have increased levels of essential amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW86267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW86267 standard;
                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1998-609902/51.
N-PSDB; AAV80247.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gutteridge S:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W09845458-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bertholletia excelsa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chimeric; dietary protein; essential amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brazil Nut 2S albumin; seed storage protein; modified; BNCNSS; BN11; BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; AT2S1BN153W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Modified Brazil nut 2S albumin gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (DUPO ) DU PONT DE NEMOURS & CO
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    40
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95
                                  N
ephmsecceqlegmdesckceglkmmmmkmqqeemqpkgeqmkkmmklaenipskcnlsp 99
                  ERSINGCCDHIKQMQSQCNCEGIN-QAIEQQQSQGQLQGQDVFEAFNTAANLPSMCGVSP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pqvdvcpf 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPTE-CRF 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lqkcceqlkqmqsqcvcptlkgaskavkqeeqqqgqqqqqqqkqqmvrkiyktakhlpkvcdi 154
                                                                l Similarity
23; Conserv
                                                                                                                                                                          of the wild-type protein replaced with Lys residues.
                                                                                                                                            111 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97US-0042827.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protein; 111 AA
                                                                               37.3%;
                                                               Score 130.5; DB 19;
Pred. No. 6e-09;
6; Mismatches 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BN15 amino acid sequence
                                                                                            Length
                                                               1;
                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58
                                                               1;
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Qy

61 TECRF 65

멍 δÃ

40

ephmsecceqlegmdesckceglkmmnmkmqqeemqpkgeqmkkmmklaenipskcnlsp

ERSLRGCCDHLKQMQSQCRCEGLR-QAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSP 60

Mismatches

25;

Indels

1.

Gaps

1;

99

N

Matches

Local

Similarity

Conservative

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100 mkcpf 104

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AAW86268
ID AAW8
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                                                                                             The invention relates to modified Brazil Nut 2s albumin seed storage compositions and nucleic acids encoding the modified proteins. The modified Brazil nut 2s albumin proteins are rich in essential amino acids and the encoding genes selected from a group comprising of BNONSS, BN11, BN15, CC BN17, BN18, BN19, BN153KW, AT2SIBN15, AT2SIBN19, AT2SIBN153W genes. Chimeric genes comprising a nucleic acid fragment encoding a modified Brazil nut 2s protein operably linked to suitable regulatory sequences, integrated into the genome of a transformed plant can be can be used in methods for increasing the essential amino acid content of seeds. The products can be used to provide a human and animal dietary protein in seed crop plants that is relatively high in essential amino acid content. The present sequence represents the amino acid sequence of a modified Brazil Nut 2s albumin gene BN17. The modified BN17 has all the 15 Arg residues, Gly at position 105 and Ser at position 107 of the wild-type or protein replaced with Lys residues
                                                                                                                                                                                                                                                                                                                                                                                                                        New modified Brazil Nut 2S albumin proteins - useful to provide transgenic seed crops whose proteins have increased levels of essential amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brazil Nut 2S albumin; seed storage protein; modified; BNCNSS; BN11; BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; AT2S1BN153W; Chimeric; dietary protein; essential amino acid.
                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                       Claim 6; Fig 5; 80pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAV80248.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1998-609902/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Modified Brazil nut 2S albumin gene BN17 amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAW86268 standard; Protein; 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (DUPO ) DU PONT DE NEMOURS & CO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 mkcpf 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TECRF 65
                                                                   111 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97US-0042827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98WO-US06673
37.3%; Score 130.5; DB 35.4%; Pred. No. 6e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ą
                  DB 19;
                Length 111;
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RESULT 1
AAW86270
Brazil Nut 2S albumin; seed storage protein; modified; BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; chimeric; dietary protein; essential amino acid.
        Misc-difference
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/note= "wild-type
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AT2S1BN153W;
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N-PSDB; AAV80250.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 6; Fig 7; 80pp; English.
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                                                                                            Brazil Nut 2S albumin; seed storage protein; modified; BN15; BN17; BN18; BN19; BN153KW; AT2S1BN15; AT2S1BN19; chimeric; dietary protein; essential amino acid.
                                                                                                                                                       Modified Brazil nut 2S albumin gene AT2S1BN15 amino acid sequence.
                                                                                                                                                                                   01-MAR-1999
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WO9845458-A1

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ge protein; modified; BNCNSS; BN11;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 6; Fig 11; 80pp; English.
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N-PSDB; AAV80273.
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  SUMMARIES
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Result

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US-08-591-498-3	US-09-625-188-20	US-08-764-343-1	US-08-961-739-2	US-08-194-468-2	US-08-404-607-4	US-08-326-352-4	US-09-290-333-2	US-08-810-572A-2	US-09-290-333-6	US-08-810-572A-6	US-08-591-498-12	US-08-782-177-4	US-08-216-846-3	US-08-989-925-4	US-08-764-343-3	US-08-127-995-2	US-07-708-038-2	
Sequence 3, Appli	\sim	Sequence 1, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 4, Appli	Sequence 4, Appli	-	Sequence 2, Appli	-	Sequence 6, Appli	Sequence 12, Appl	Sequence 4, Appli	Sequence 3, Appli	Sequence 4, Appli	`	Sequence 2, Appli	Sequence 2, Appli	

ALIGNMENTS

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REFERENCE/DOCKET NUMBER: 2346
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
TELEFAX: (202) 822-0168
TELEFAX: 90-4030 MRSNFOERSWSH
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 158 and no acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/08670186 Patent No. 5859343 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/670,186
FILING DATE: 21-UN-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MURASHIGE, KATE H.
REGISTRATION NUMBER: 29,959
REGISTRATION NUMBER: 29,959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 20006-1888
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: SUN, SAMUEL S.M.
APPLICANT: XIONG, LIWEN
APPLICANT: HU, ZHONG
APPLICANT: CHEN, HANG
TITLE OF INVENTION: RECOMBINANT SWEET PROTEIN MABINLIN
NUMBER OF SEQUENCES: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
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ZIP: 20006-1888
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Conservative

13;

Score 136; DB 2; 1 Pred. No. 7.3e-10; 3; Mismatches 22;

Length 158; Indels

4,

Gaps

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38.9%; 43.5%;

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US-08-670-186-2
; Sequence 2, Application US/08670186
; Patent No. 5859343
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                                                                                                                               RESULT
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                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (202) 822-016
TELEX: 90-4030 MRSNFOE
INFORMATION FOR SEQ ID NO:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: MURASHIGE, KATE H.
REGISTRATION NUMBER: 29,959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
                                                  APPLICANT:
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 APPLICANT:
                  APPLICANT:
                                   APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: XIONG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                              147 IPAVGRCQF 155
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                                                                                                                                                                                                              58 VSPT-ECRF 65
                                                                                                                                                                                                                                              87
                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA
ZIP: 20006-1888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                           1 QER--SLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQG-QDVFEAFRTAANLPSMCG 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                              QQRGPALRLCCNQLRQVNKPCVCPVLRQAAHQQLYQGQ1EGPRQVRRLFRAARNLPNICK 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VSPT-ECRF 65
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                                                                                                                                                                                                                                                                                                              30;
                                                                                                                                                                                                                                                                                                                                                                                                                                    H: 158 amino acids amino acid
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0-4030 MRSNFOERSWSH
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CHEN, HANG
                XIONG, LIWEN HU, ZHONG
                                                  SUN,
                                                                                                                                                                                                                                                                                                              Conservative
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                                                  SAMUEL S.M
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                                                                                                                                                                                                                                                                                                                            38.3%;
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Pred. No. 1.3e-09;
.2; Mismatches 23;
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; TOPOLOGY: 11; MOLECULE TYPE: US-08-670-186-2
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Patent No. 5608152
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 39.3
             SOFTWARE: Patentin Release #1
CURRENT APPLICATION UNDER: US/08/453
APPLICATION UNMBER: US/08/453
FILING DATE: 30-MAY-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 07/742,83
EILING DATE: 08-AUGUST-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (202) 822-U168
TELEX: 90-4030 MRSNFOERSWSH
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: MURASHIGE, KATE H.
REGISTRATION NUMBER: 29,5
REFERENCE/DOCKET NUMBER:
PRIOR APPLICATION DATA
                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Kridl, Jean C. APPLICANT: Knauf, Vic C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 155 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ELECUTATION (202) F
                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                               STREET: 2882 Sand
CITY: Menlo Park
                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88 ALRQCCNQLRQVDRPCVCPVLRQAAQQVLQRQIIQGPQQLRRLFDAARNLPNICNI 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 21 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 SLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQG-QDVFEAFRTAANLPSMCGV 58
                                                                                                                                                                                                                                                  94025
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2882 Sand Hill Road, Ste.
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2000 PENNSYLVANIA AVE NW,
                                                                                                                                                                                                                                                              U.S.A.
                                                                                                                                                  PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (202) 887-1500
202) 822-0168
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30.4%; Score 106.5; DB 2; 39.3%; Pred. No. 3.7e-06; tive 11; Mismatches 22;
                                                                                                           US/08/453,924
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                                                                                                                                                    Version #1.30
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PRIOR APPLICATION DATA:

APPLICATION NUMBER:

25-JANUARY-1988

07/147,781

APPLICATION NUMBER: 07/550,804 FILING DATE: 09-JULY-1990

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US-08-618-911-2
; Sequence 2, Application US/08618911
• Patent No. 5850016
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (415) 854-3713 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Jung, I
APPLICANT: Hasting
APPLICANT: Coughl
NAME: Simon, Soma
REGISTRATION NUMBER: 37,444
REFERENCE/DOCKET NUMBER: 36:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (515) 248-4800
                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/618,911
FILING DATE: CONCULTENTLY herewith
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RECISTRATION NUMBER: 32,750
REFERENCE/DOCKET NUMBER: CGNE-037/04US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 926-6200
                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: ALTERATION OF AMINO ACID COMPOSITIONS IN TITLE OF INVENTION: SEEDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 28-JULY-1987 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: 25-JANU
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       162 RACNIRQVSICPF 174
                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                       COUNTRY: UZIP: 50309
                                                                                                                                                                                                                                                                                       CITY: Des Moines
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                     ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC
                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5 LRGCCDHLKQMQSQCRC-----EGLRQAIEQQQSQGQLQGQD----VFEAFRTAANLP 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
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                                                                                                                                                                                                                                                                      Iowa
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Coughlan, Sean
Hu, David
                                                                                                                                                                                                                                                      USA
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                                                                                                                                                                                                    Floppy disk
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Pred. No. 8.2e-05;
2; Mismatches 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 184;
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US-08-216-846-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 16; Conserv
                                                                                                                                                                                                              APPLICATION NUMBER: JP 91881/199
FILING DATE: 29-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 148423/19
APPLICATION NUMBER: JP 148423/19
FILING DATE: 28-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5444046man F.
REGISTRATION NUMBER: 24,618
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (515) 248-4844
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 155 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL
                                                                                    TELEPHONE: (703) 413-3000
TELEFAX: (703) 413-2220
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION WINDER: US/08/216,846
FILING DATE: 24-MAR-1994
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 13
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: AMYLASE INHIBITORS NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
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                                    TOPOLOGY:
                                                     TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60 P 60
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                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 QERSLRGCCDHLKQMQSQ-CRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVS 59
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                                                  : 123 amino acids
amino acid
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GY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1755 S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MATSUBARA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MORIMOTO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MIYAZAKI, TOSHIYUKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                 protein
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                                                                                                                                                                                                                                                                                               JP 148423/1993
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                                                                                                Matches
                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 22.6%; Score 79; DB 1; Le Best Local Similarity 32.3%; Pred. No. 0.0081; Matches 21; Conservative 10; Mismatches 26;
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                                                                                                                                                                                                                                                                                            TELEFAX: 703-413-2220 INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 13
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
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APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: JP 23445/1996
FILING DATE: 18-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: AGENTS FOR INHIBITING ACCUMULATION OF TITLE OF INVENTION: VISCERAL FAT
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54 SMCGV 58
                                 36
                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: sir
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/782,177 FILING DATE: 14-JAN-1997
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                                                                                                                                                                                                                                                            LENGTH:
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                                 EAVLRDCCQQLADINNEWCRCGDLSSMLRAVTQELGVREGKEVLPGCRKEVMKLTAASVP 95
                                                             ERSIRGCCDHIKQMQSQ-CRCEGIRQAIEQ-QQSQGQLQGQDVFEAFR-----TAANLP 53
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                                                                                                                                                                                                                                                          123 amino acids
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GODA, TOSHINAO
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                                                                                                Conservative
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                                                                                                                                                                                                               linear
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                                                                                                            22.6%;
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                                                                                                10;
                                                                                                              Score 79; DB 1;
Pred. No. 0.0081;
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                                                                                                Mismatches
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                                                                                               26;
                                                                                                                              Length 123
                                                                                               Indels
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                                                                                             Gaps
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US-08-618-911-4
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                                                                                                                                               Patent No.
                                                                                                                                                             Sequence 4,
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Best Local S
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Patent No.
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GENERAL INFORMATION:
APPLICANT: Jung,
APPLICANT: Hastin
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INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08,
FILING DATE: CONCURRENTLY
ATTORNEY/AGENT INFORMATION:
NAME: Simon, Soma
REGISTRATION NUMBER: 37,4
REFERENCE/DOCKET NUMBER:
     APPLICANT: COUGHIAH, DAVID APPLICANT: Hu, DAVID AVID TITLE OF INVENTION: ALTERATION TITLE OF INVENTION: SEEDS 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
ODERATING SYSTEM: PC-DOS/MS-DOS
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Coughlan, APPLICANT: Hu, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                  90 EEGQMQKCCTEMSELKSPKCQCKALQKIMENQSE--ELEEKENKKMEKELMNLATMCRFG 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: PIONEER HI-BRED INTERNATIONAL, INC
STREET: 700 Capital Square, 400 Locust Street
                                                                                                                                                                                                                                                                                                                                                               1 QERSLRGCCDHLKQMQS-QCRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVS 59
                                                                                                                                                                                                                                                                                                                                                                                                     1 Similarity
15; Conserv
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                                                                                                                                                                         Application US/08618911
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                                                                                 Hastings, Crai
Coughlan, Sean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hastings, Craig
Coughlan, Sean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jung,
                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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248-4844
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                                                                                                                                                                                                                                                                                                                                                                                                   21.9%; Score 76.5; DB 2; 24.6%; Pred. No. 0.023; tive 20; Mismatches 23;
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                                                                                                    Craig
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                                                    AMINO ACID COMPOSITIONS
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 158;
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US-08-938-675A-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08938675A Patent No. 6107287
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (515) 248-4844
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
              ATTORNEY/AGENT INFORMATION:
NAME: OSMAN, RICHARD A
REGISTRATION NUMBER: 36,627
REFERENCE/DOCKET NUMBER: B9
                                                                                                                                                                                                                                                                                                                                                    APPLICANT: de Lumen, Benito O.
APPLICANT: Galvez, Alfredo F.
TITLE OF INVENTION: Lunasin Peptides
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 36
TELECOMMUNICATION INFORMATION:
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TELECOMMUNICATION INFORMATION:
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APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             148 P 148
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TOPOLOGY:
                                                                                    CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                ADDRESSEE: SCIENCE & TECHNOLOGY LAW GROUP STREET: 75 DENISE DRIVE CITY: HILLSBOROUGH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60 P 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90 EEGHMQKCCTEMSELRSPKCQCKALQKIMENQSE--ELEEKQKKKMEKELINLATMCRFG 147
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REGISTRATION NUMBER: 37,444
                                                                                                        FILING DATE:
                                                                                                                       APPLICATION NUMBER: US/08/938,675A
                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 700 Capr.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08/618,911
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                                                                                                                                                                                                                                                                  USA
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                В98-003
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                                                                                                                                                         Version #1.30
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; MOLECULE TYPE: US-08-782-177-2
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                                                                                        TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION FOR SEQ ID NO: 2:
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APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                    FILING DATE: 14-JAN-1
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 3
                                                                                                                                        TELEPHONE: 703-413-3000
                                                                                                                                                                                                                   FILING DATE: 18-JAN-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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                                                                                                                                                                      NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24
REFERENCE/DOCKET NUMBER:
                               TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: ARLINGTON
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STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
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                                                           amino acid
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MORIMOTO,
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TAKASE, SACHIKO
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                                                                                                                                                                                      24,618
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; Pred. No. 0.04;
19; Mismatches 24; Indels
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US-08-216-846-1
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                                                                       Matches 18; Conserv
                                                                                                        Query Match
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Best Local Similarity
Matches 18; Conserv
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                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 124 amino acid
                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION: TELEPHONE: (703) 413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: JP 9: FILING DATE: 29-MAR-1993 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA: APPLICATION NUMBER: US,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: MIYAZAKI, TOSHIYUKI
APPLICANT: MORIMOTO, TOSHIHISA
APPLICANT: MURAYAMA, RYUJI
APPLICANT: MATSUBARA, HIROSHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
 35 EAVLRDCCQQLADISEWCRCGALYSMLDSMYKEHGVQEGQAGTGAFPSCRREVVKLTAAS 94
                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                        NAME: Oblon, No. 5444046man F. REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1327-
                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: JP 1/
FILING DATE: 28-MAY-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 2. CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 1755 S. CITY: Arlington STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95 ITAVC 99
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: U.S.A.
                                  2 ERSLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQ----GQDVFEAFR-----TAAN 51
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                                                                                                                                                                                                              amino acid
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    P.C.
    1755 S. Jefferson Davis Highway, Suite 400

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                                                                       Conservative
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                                                                                      20.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                JP 148423/1993
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                                                                       10; Mismatches
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                                                                                        Pred.
                                                                                      Score 73; DB 1;
Pred. No. 0.047;
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                                                                                                        DB 1;
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                                                                     27; Indels
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                                                                                                        Length 124;
                                                                    10; Gaps
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                  US-08-782-177-1
; Sequence 1, Application US/08782177
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US-08-216-846-2
                                                                                                                                                                       Matches
                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                   PILING DATE: 29-MAR-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 148423/19
PILING DATE: 28-MAY-1993
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5444046man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1327-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
EILING DATE: 24-WAR-1994
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                          TELEFAX: (703) 413-222
TELEX: 248855 OPAT UR
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 22202
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (703) 413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: MORIMOTO, TOSHIHISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                              95 ITAVC
                                                                          52 LPSMC 56
                                                                                                        35 EAVLRDCCQQLAHISEWCRCGALYSMLDSMYKEHGAQEGQAGTGAFPRCRREVVKLTAAS 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Flop
COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 1755 S. CITY: Arlington STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95 ITAVC 99
                                                                                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: JP 9 FILING DATE: 29-MAR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: U
ZIP: 22202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
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                                                                                                                                  2 ERSLRGCCDHLKQMQSQCRCEGLRQAIEQQ-QSQGQLQGQDVFEAF-----RTAAN 51
                                                                                                                                                                                                                                                                                                           ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vo. 5444046
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                                                                                                                                                                                                                                                                                             amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application US/08216846
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1755 S. Jefferson Davis Highway, Suite 400
                                                                                                                                                                                                                                                                                                               124 amino acids
                                                                                                                                                                                                                                                                                                                                                                          (703) 413-2220
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                                                                                                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MURAYAMA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT
                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-MAR-1994
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PC-DOS/MS-DOS
                                                                                                                                                                                  20.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/216,846
                                                                                                                                                                      .9; Mismatches
                                                                                                                                                                                  Score 73; DB 1; Length 124
Pred. No. 0.047;
                                                                                                                                                                                                                                                                                                                                                                                                                         1327-029-0X
                                                                                                                                                                    27;
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                                                                                                                                                                    Gaps
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Patent No. 5789380

GENERAL INFORMATION:

APPLICANT:

GODA,

TOSHINAO

MIYAZAKI, TOSHIYUKI MORIMOTO, TOSHIHISA MURAYAMA, RYUJI TAKASE, SACHIKO

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; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-782-177-1
                                                                                                                                                                                  US-08-782-177-3
                                                                                                                                                                                                    RESULT
                                                                                                                              Sequence 3, Application US/08782177 Patent No. 5789380 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: JP 23445/1996
FILING DATE: 18-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 1327-055-0:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 1:
        APPLICANT: TAKASE, SACHIKO
APPLICANT: GODA, TOSHINAO
TITLE OF INVENTION: AGENTS FOR INHIBITING ACCUMULATION OF
TITLE OF INVENTION: VISCERAL FAT
                                                                             APPLICANT: MIYAZAKI, TOSHIYUKI
APPLICANT: MORIMOTO, TOSHIHISA
APPLICANT: MURAYAMA, RYUJI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
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NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        35 EAVLRDCCQQLADISEWCRCGALYSMLDSMYKEHGVQEGQAGTGAFPSCRREVVKLTAAS 94
                                                                                                                                                                                                                                                     95 ITAVO
                                                                                                                                                                                                                                                                                   52 LPSMC 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 14
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                  2 ERSLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQ----GQDVFEAFR-----TAAN 51
                                                                                                                                                                                                                                                                                                                                                                                     18;
                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22202
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1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
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                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                     20.9%;
27.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             us/08/782,177
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Search completed: September Job time: 236 sec

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2002, 12:44:14

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                                                                                                                          Query Match
Best Local Similarity
Matches 19; Conserv
                                                                                                                                                                                                                                                                                                                                      TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: JP 23445/1996
FILING DATE: 18-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: 703-413-3000
                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                   TYPE: amino acid
 95 ITAVC
                               52 LPSMC 56
                                                                35 EAVLRDCCQQLAHISEWCRCGALYSMLDSMYKEHGAQEGQAGTGAFPRCRREVVKLTAAS 94
                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                     STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 14-JA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 1755 S. CITY: ARLINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
                                                                                              2 ERSLRGCCDHLKQMQSQCRCEGLRQAIEQQ-QSQGQLQGQDVFEAF-----RTAAN 51
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99
                                                                                                                                                                                                                                                                                                     124 amino acids
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                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                     single
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                                                                                                                                 9;
                                                                                                                                Score 73; DB 1;
Pred. No. 0.047;
9; Mismatches 2
                                                                                                                                   27;
                                                                                                                                                               Length 124;
                                                                                                                                 Indels
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Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                              Result
No.
                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OM protein - protein search, using sw model
     Pred. No. is the number of results predicted by chance to h score greater than or equal to the score of the result bein and is derived by analysis of the total score distribution.
    Score
   PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                             Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              September 9, 2002, 12:43:30 ; Search time 45.25 (without alignments 138.029 Million cel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    283138 segs, 96089334 residues
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Gapop 10.0 , Gapext 0.5
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350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QERSLRGCCDHLKQMQSQCR.....FRTAANLPSMCGVSP1
   RZCS
A59346
S14947
S48176
S48180
S48178
S48178
S14946
F10257
S01062
T09252
T09252
T09252
T09252
T09850
T09878
NWMU1
S38887
S48513
JC5379
NWFP2
S07828
A25997
S25130
T08010
S18871
S15382
A37931
PS0426
S25137
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2S seed storage pr

seed storage protes

2s albumin - Brazi

mabinlin II- Yun

mabinlin III- Yun

2s seed storage protes

2s seed storage protes

2b seed storage protes

2b seed storage protes

2b seed storage protes

2b seed storage protes

2b albumin 2s storage

2s albumin - common

puroindoline-b precursor

mabinlin II precursor

napin B - rape

mabinlin precursor

napin precursor

napin precursor

napin precursor

napin naps - rape

napin naps - rape

napin naps - rape

napin naps - rape

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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30
91.5	91.5	92	94.5	94.5	95	95	95.5	95.5	96.5	96.5	96.5	97	86	98.5	99
26.1	26.1	26.3	27.0	27.0	27.1	27.1	27.3	27.3	27.6	27.6	27.6	27.7	28.0	28.1	28.3
186	186	80	170	164	166	145	164	155	327	180	180	174	152	186	162
N	Н	N	ш	N	\vdash	N	N	N	N	2	2	N	N	N	N
JC4784	WMRZ19	в23617	NWMU2	S48187	NWMU4	PC1247	S48186	S51770	JS0402	S52025	S10018	PS0425	PS0427	A29802	S49259
alpha-globulin pre	19K globulin precu	conglutin delta-2	2S albumin 2 prec	grain softness pro	\simeq	Sin a I allergen :	grain softness	grain softness pro	gamma-gliadin prec	napin (clones BNM)	_	napin BA3 precurso	napin AH1 precurso	napin precursor	albumin 4 – easter

R R R R R R R R R R R R R R R R R R R		25 Seconds .s) all updates/sec
RESULT 1 REACS REACS REACS REACH the control of the precursor of the control	ALIGNMENTS	35 96.5 27.6 180 25.2025 36 96.5 27.6 327 2 JS0402 37 95.5 27.3 155 2 S51770 38 95.5 27.3 155 2 S48186 39 95 27.1 145 2 PC1247 40 94.5 27.0 164 1 NWMU2 41 94.5 27.0 170 1 NWMU2 42 94.5 27.0 170 1 NWMU2 43 92 26.3 80 2 B23617 44 91.5 26.1 186 2 JC4784 45 91.5 26.1 186 2 JC4784
albumin precursor gene. albumin precursor gene. B8097.1; PID:q21068 the 14 as Phe, CCA for residue 7 single preproprotein may be pro single preproprotein may be pro tts of seed storage protein from tts of seed storage protein and tur vulgare) trypsin inhibitor a ttor from barley ide bonds involving Cys-162 and		gamma-gliadin prec grain softness pro grain softness pro grain softness pro Sin a I allergen 2 25 albumin 4 precu grain softness pro 25 albumin 2 precu conglutin delta-2 19K globulin precu alpha-globulin pre

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28 albumin - Brazil nut
C:Species: Bertholletia excelsa (Brazil nut)
C:Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 21-Jul-2000
C:Accession: S14947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Keywords: pyroglutamic acid; seed; storage protein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;2-35/Domain: propeptide #status predicted <PRO>
F;36-72/Product: probable 2S seed storage protein small chain 2 #status predicted <FRO;
F;36-72/Product: probable 2S seed storage protein chain large 2 #status predicted <IF;87-156/Product: 2S seed storage protein small chain #status experimental <SMI>
F;157-190/Product: 2S seed storage protein small chain #status experimental <LRG>
F;194-258/Product: 2S seed storage protein large chain #status experimental <LRG>
F;194-Modified site: pyrrolidone carboxylic acid (Gln) (in mature form) #status exper
                                                                                                          R;Gander, E.S.; Holmstroem, K.O.; de Paiv
Plant Mol. Blol. 16, 437-448, 1991
A;Title: Isolation, characterization and
A;Reference number: S14946; MUID:91370896
A;Accession: S14947
                                                                                                                                                                                                                                                                                         RESULT
S14947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Experimental source: cv. cherry; seed
A;Note: cross-reactive with anti-tomato lectin antiserum; one of four isoforms in seeds
C;Complex: heterodimer of large and small (see PIR:B59346) chains, disulfide linked
C;Keywords: heterodimer; pyroglutamic acid; seed; storage protein
F;1/Modified site: pyrrolidone carboxylic acid (Gln) #status experimental
A;Cross-references: EMBL:X54491; NID:g17712; PIDN:CAA38363.1; PID:g17713 C;Genetics:
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                                                A; Molecule type: DNA
A; Residues: 1-154 <GAN>
                                                                                        A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein A; Residues: 1-70 <OGU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Species: Lycopersicon esculentum (tom C; Date: 31-Dec-2001 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           seed storage protein Lec2SA1 large chain [imported] - N; Alternate names: 2S albumin large subunit
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Matches 65
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Best Local
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les 65; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                            RDVQQCCNQLEQIQDPQCRCEGLMKVVQQEEQTGKVQGRQRQQMLQTAENLPGLCRLSPQ 64
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                                                                                                                                  MUID: 91370890
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 155.5; DB 2
Pred. No. 6.4e-11;
7; Mismatches 18
                                                                                                                                                                                         de Paiva, G.R.;
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Pred. No. 1.4e-32;
; Mismatches 0;
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sion 31-Dec-2001 #text_change 31-Dec-2001
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                                                                                                                                                                                       de Castro, L.A.B.; Carneiro,
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mabinlin I-1 - Yunnan caper (fragments)
C;Species: Capparis masaikai (Yunnan caper)
C;Species: Capparis masaikai (Yunnan caper)
C;Date: 15-Jul-1995 #sequence_revision 13-Mar-1998
C;Accession: S48176; S48177
R,Nirasawa, S.; Nishino, T.; Katahira, M.; Uesugi, S.; Hu, Z.; Kurihara, Y.
Eur. J. Biochem. 223, 989-995, 1994
A;Fitle: Structures of heat-stable and unstable homologues of the sweet prof
A;Reference number; S48176; MUID:94333405
A, Experimental source: seed
C; Superfamily: wheat alpha-amylase inhibitor
C; Keywords: albumin; storage protein; sweet taste
E; 1-28/Product: mabinlin IV chain A (fragment) #status experimental
E; 1-28, 29-100/Product: mabinlin IV (fragment) #status experimental <
E; 29-100/Product: mabinlin IV chain B #status experimental <
CHB>
E; 4-49, 17-38, 39-87, 51-95/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                   mabinin IV - Yunnan caper (fragments)
C;Species: Capparis masaikai (Yunnan caper)
C;Date: 15-Jul-1995 #sequence_revision 13-Mar-1998 #text_change 20-Mar-1998
C;Accession: S48180; S48181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Experimental source: seed
C;Superfamily: wheat alpha-amylase inhibitor
C;Superfamily: wheat alpha-amylase inhibitor
C;Keywords: albumin; storage protein; sweet taste
E;1-32/Product: mabinlin I-1 chain A (fragment) #status experimental
F;1-32,33-104/Product: mabinlin I-1 (fragment) #status experimental <--
F;33-3104/Product: mabinlin I-1 chain B #status experimental <--
CHB>
F;3-53,17-42,43-91,55-99/Disulfide bonds: #status experimental
                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 1-28; 29-100 <NIR>
                                                                                                                                                                                                                                                                                                                                      Eur. J. Biochem. 223, 989-995, 1994 A; Title: Structures of heat-stable
                                                                                                                                                                                                                                                                                                                                                                                                C; Accession: S48180; S48:
R; Nirasawa, S.; Nishino,
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Local Similarity 41.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                T.; Katahira, M.;
                                                                                                                                                                                                                                                                                                             MUID: 94333405
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; Pred. No. 2.1e-08;
12; Mismatches 22
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Pred. No. 1.3e-09;
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mabin

mabin

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25 seed storage protein large chain - Brazil nut
N;Alternate names: albumin 25 procursor
C;Species: Bertholletia excelsa (Brazil nut)
C;Date: 21.Nov-1993 #sequence_revision 26-May-1995 #text_change 21-Jul-2000
C;Accession: S14946; S14479; S06252; S21640; B25802
R;Gander, E.S.; Holmstroem, K.O.; de Paiva, G.R.; de Castro, L.A.B.; Carneiro, M.
Plant Mol. Biol. 16, 437-448, 1991
A;Title: Isolation, characterization and expression of a gene coding for a 2S al
A;Reference number: S14946
A;Status: preliminary
A;Residues: preliminary
A;Cross-references: EMBL:X54490; NID:g17710; PIDN:CAA38362.1; PID:g17711
A;Note: the authors translated the codon CTT for residue 13 as Val and GTC for R;Bassuener, R; Schlesier, B.
submitted to the EMBL Data Library, December 1990
A;Reference number: S14479
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-146 <BAS>
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C.Species: Capparis masaikai (Yunnan caper)
C.Date: 15-Jul-1995 #sequence_revision 13-Mar-1998 #text_change 20-Mar-1998
C.Accession: $48178; $48179
R.Nirasawa, S.; Nishino, T.: Katabira. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Experimental source: seed
C;Superfamily: wheat alpha-amylase inhibitor
C;Keywords: albumin; storage protein; sweet taste
C;Keywords: albumin; storage protein; sweet taste
E;1-32/Product: mabinlin III chain A (fragment) #status experimental <CHA:
E;1-32,33-104/Product: mabinlin III (fragment) #status experimental <MAT>
F;3-3-104/Product: mabinlin III chain B #status experimental <CHB>
F;3-53,17-42,43-91,55-99/Disulfide bonds: #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R;Nirasawa, S.; Nishino, T.; Katahira, M.; Uesugi, S.; Hu, Z.; Kurihara, Y. Eur. J. Blochem. 223, 989-995, 1994
A;Title: Structures of heat-stable and unstable homologues of the sweet protein mabinlin
A;Reference number: S48176; MUID:94333405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Reference number: A; Accession: S48178
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62 ECRF 65
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALRLCCNQLRQVNKPCVCPVLRQAAHQQLYQGQIEGPRQVRRLFRAARNLPNICKIPAVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQG-QDVFEAFRTAANLPSMCGVSPT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RCQF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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Pred. No. 3.4e
L1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 133; DB 2;
Pred. No. 3.5e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3; DB 2;
. 3.4e-08;
tches 23;
                                                                                                                                                                                                                                                                                                                                               G.R.; de Castro, L.A.B.; Carneiro,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 104
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:
                                                                                                                                                     residue
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                                            A; Accession: S19323
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28 albumin precursor - cucurbit
N;Alternate names: prepro28 albumin
C;Species: Cucurbita sp. (cucurbit)
C;Date: 16-Jul-1999 *sequence_revision 16-Jul-1999 *text_change: C;Accession: T10257; S19323
C;Accession: T10257; S19323
C;Accession: T10257; S19323
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C;Accession: T10257; S19323
C;Accession: T10257; S19323
C;Accession: T10257; S19323
                                                   A; Note: soluble seed protein
R; Hara-Nishimura, I.; Inoue, K.; Nishimura,
FEBS Lett. 294, 89-93, 1991
A; Title: A unique vacuolar processing enzyme A; Reference number: S19323; MUID:92077151
                                                                                                                                                                                                                                                                                                                                                         A; Reference number: A; Accession: T10257
                                                                                                                                                                                                                                                                                                                                                                                           A; Title: Vesicle transport and processing A; Reference number: 217000; MUID:94100993
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C;Superfamily: wheat alpha-amylase inhibitor
C;Superfamily: wheat alpha-amylase inhibitor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-46/Domain: propeptide #status predicted <PRO>
F;47-69/Product: seed storage protein small chain #status predicted
F;47-69/Product: seed storage protein small chain #status predicted
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R;Altenbach, S.B.; Pearson, K.W.; Leung, F.W.; Sun, S.S.M.
Plant Mol. Biol. 8, 239-250, 1987
A;Title: Cloning and sequence analysis of a cDNA encoding
A;Reference number: S06252
                                                                                                                                                                                                                                                  A; Molecule type: mRNA; p:
A; Residues: 1-141 <HAR1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;47-69/Product: seed storage protein large
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A;Residues: 1-146 <BA2>
A;Cross-references: EMBL:X57028; NID:g17716; PID:g17717
R;Ampe, C.; Van Damme, J.; de Castro, L.A.B.; Sampaio, I
Eur. J. Biochem. 159, 597-604, 1986
                                                                                                                                                                            A; Experimental source: seed,
                                                                                                                                                                                                                     A;Cross-references:
                                                                                                                                                                                                                                                                                                                        A;Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plant J. 4, 793-800, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 70-90,'E',92-121,'M',123-125,'L',127-142 <AMP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental source: clone pHS-3
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A; Residues: 1-14
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                                                                                                                                                                         EMBL:D16560; NID:g459404; PIDN:BAA03993.1; PID:g459405
be: seed, storage deposition stage; cotyledon
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R;Dong, J.Z.; Dunstan, D.I.
submitted to the EMBL Data Library, June 1996
A;Description: Gene expression during somatic
A;Reference number: Z16588
A;Accession: T09252
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T09252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2S seed storage protein precursor (clone HaG5) - common sunflower N;Alternate names: 2S albumin storage protein C;Species: Helianthus annuus (common sunflower) C;Date: 31-Dec-1988 #sequence_revision 31-Dec-1988 #text_change 21-Jul-2000 C;Accession: S01062 R;Allen, R.D.; Cohen, E.A.; Vonder Haar, R.A.; Adams, C.A.; Ma, D.P.; Nessler, Mol. Gen. Genet. 210, 211-218, 1987 A;Title: Sequence and expression of a gene encoding an albumin storage protein A;Reference number: S01062; MUID:88142538 A;Accession: S01062
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C; Keywords: seed; storage protein
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-35/Domain: propeptide #status experimental <PRO>
F;36-141/Product: 2S albumin #status experimental <PRO>
                                                                                                                                                                                                                                                                                         seed storage protein EMB25 - white spruce
C;Species: Picea glauca (white spruce)
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999
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C;Superfamily: gliadin
F;1-20/Domain: signal sequence #status predicted <SIG>
F;162-295/Product: 2S seed storage protein #status experimental
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A:Residues: 1-295 <ALL>
A:Residues: 1-295 <ALL>
A:Cross-references: EMBL:X06410; NID:g18799; PIDN:CAA29699.1; PID:g18800
A:Note: part of this sequence, including the amino end of the mature proficemetics:
                                                                                                 A;Cross-references:
C;Genetics:
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A; Residues: 1-165 < DOI
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R;Dong, J.Z.; Dunst
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30.3%;
         32.4%;
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39.7%;
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                                                                                                                   NID:g1350513;
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Pred. No. 3.5e
L7; Mismatches
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l; Mismatches
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         No. 113
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CCDHLKQMQSQCRCEGLRQAIEQ--QQSQGQLQGQDVFEAF-RTAANLPSMCGVSPTEC

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C;Keywords: storage protein
F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-139/Product: albumin 2S storage protein Mat5-A #status
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                                                                                                                                                                                                                                                               R;Galau, G.A.; Wang, H.Y.C.; Hughes, submitted to the EMBL Data Library, A;Description: Cotton Mat5-A (C164)
                                                                                                                                                                                                                                                                                                                albumin 2S storage protein precursor Mat5-A - upland cotton C;Species: Gossypium hirsutum (upland cotton) C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change C;Accession: T09878
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A; Accession: T09878
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A; Residues: 1-139 <GAL>
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A; Accession: T09850
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   l Similarity
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36.1%;
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Score 112.5; DB Pred. No. 1e-05; O; Mismatches
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73

CCQQLEKMDTQCRCQGLRHATMQQMQQMQGQMGSKQMREIMQKVTKKIMSECEMEPGRC 131

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RESULT 14
S38887
C; Species: Helianthus annuus (common sunflower)
C; Species: Helianthus annuus (common sunflower)
C; Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 26-May-2000
C; Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 26-May-2000
C; Accession: S38887
R; Thoyts, P.J.E.; Millichip, M.; Stobart, A.K.; Griffiths, W.T.; Napier, J.P. submitted to the EMBL Data Library, November 1993
A; Reference number: S38887
A; Accession: S38887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: wheat alpha-amylase inhibitor
C;Keywords: seed; storage protein
F;1-21/Domain: signal sequence *status predicted <SIG>
F;22-164/Product: 2S albumin 1 proprotein *status predicted <AT2>
F;38-73/Product: 2S albumin 1 small chain *status experimental <SMC>
F;84-162/Product: 2S albumin 1 large chain *status experimental <LAC>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;Conceicao, A.D.S.; Krebbers, E. submitted to the EMBL Data Library, July 1993 A;Description: Tentative title: a cotyledon regulatory region is responsible for the A;Reference number: S34674 A;Accession: S34676
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A; Residues: 1-164 <BEV>
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A; Accession: T06044
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A; Residues: 1-164 < CON>
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A; Residues: 1-164 <KRE>
A; Cross-references: GB:M22032;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Accession: JA0161; PS0282; S34676; T06044
R;Krebbers, E.; Herdies, L.; de Clercq, A.; Seurinck, J.; Leemans, J.; Van Damme, J.; Se Plant Physiol. 87, 859-866, 1988
A;Title: Determination of the processing sites of an Arabidopsis 2S albumin and characte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2S albumin 1 precursor - Arabidopsis thaliana
N;Alternate names: seed storage protein AT2S1
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 03-Dec-1999
A; Molecule type: mRNA
                              A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Reference number: JA0161
A; Accession: JA0161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 38-73; 84-162 < KR2>
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Pred. No. 1.4e-05;
6; Mismatches 25;
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Search completed: Job time: 223 sec

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A;Cross-references: EMBL:X69912; NID:g509087; PIDN:CAA49537.1; PID:g509088 C;Superfamily: glycinin F;1-29/Domain: signal sequence #status predicted <SIG>F;30-145/Product: puroindoline-a #status predicted <MAT>F;146-148/Domain: carboxyl-terminal propeptide #status predicted <PRO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     R; Gautier, M.F.; Aleman, M.E.; G
Plant Mol. Biol. 25, 43-57, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              puroindoline-b precursor - wheat
C;Specites: Triticum aestivum (common wheat)
C;Date: 06-Feb-1995 #sequence_revision 06-Feb-1995 #text_change 20-Aug-1999
C;Accession: S46514
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                                        62 ECRF 65
                                                                           85 CCKQLSQIAPQCRCDSIRRVI---
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                                                                                                                                                       30.9%; Score 108; DB 2;
35.9%; Pred. No. 3.6e-05;
tive 12; Mismatches 17;
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Listing first 45 summaries
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           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2000
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PUIA_MEAT
HOG1_BRANA
1AAE_BORVU
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PRO7_ORYSA
PUIA_MEAT
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Eur. J. Biochem. 22:989-995(1994).

-i- FUNCTION: 28 SEED STORAGE PROTEIN HAVING SWEETNESS-INDUCING ACTIVITY. THIS FORM IS NOT HEAT STABLE.

-i- SUBUNIT: HETERODIMER OF A SMALL A AND A LARGE B CHAIN LINKEE
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InterPro; IPR000617; Napin.
Pfam; PF01631; Seedstore_28;
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Ol-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
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InterPro; IPR003612; AAI.

InterPro; IPR001768; Cereal_tryp_amyl_inh.

Pfam; PF00234; tryp_aipha_amyl; 2.

SMART; SM00499; AAI; 2.
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01-FEB-1995 (Rel. 31, Last sequence upda
16-OCT-2001 (Rel. 40, Last annotation up
Mabinlin IV, A and B chains (MAB IV) (Sw
Capparis masaikai (Mabinlang).
Eukaryota; Viridiplantae; Streptophyta;
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P80353;
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Eur. J. Biochem. 223:989-995(1994).
-i- FUNCTION: HEAT STABLE 2S SEED STORAGE PROTEIN HAVING SWEETNES INDUCING ACTIVITY.
-i- SUBUNIT: HETERODIMER OF A SMALL A AND A LARGE B CHAIN LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -i- SIMILARITY: BELONGS TO THE INTETPRO; IPRO03612; AAI. InterPro; IPR000617; Napin. Pfam; PF01631; Seedstore_2S; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-94333405; PubMed-8055976;
Nirasawa S., Nishino T., Katahira M., Uesugi S., Hu Z.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'Structures of heat-stable and unstable homologues of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FISSUE-Seed;
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(Rel. 31, Last sequence update)
(Rel. 40, Last annotation update)
, A and B chains (MAB IV) (Sweet p
     Conservative
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01-FEB-1995 (Rel. 31, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Mabinlin III, A and B chains (MAB III) (Sweet proteir Capparis masaikai (Mabinlang).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eueurosids II; Brassicales; Brassicaceae; Capparis.
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         2SS_BEREX STANDARD; PRT; 1
P044403; P04402;
20-MAR-1987 (Rel. 04, Created)
01-OCT-1989 (Rel. 12, Last sequence up
16-OCT-2001 (Rel. 40, Last annotation
2S sulfur-rich seed storage protein pr
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SUBUNIT: HETERODIMER OF A SMALL A AND A LARGE B CHAIN LINKED BY
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Pred. No. 1.3e
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1.3e-08;
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PIR; S06252; S06252.

PIR; A25802; A25802.

PIR; B25802; B25802.

PIR; S14946; S14946.

PIR; S14479; S14479.

PIR; S21640; S21640.
           CONFLICT
CONFLICT
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CHAIN
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                                                                                                                                                                                                                                                                                                                                                              use by non-profit institutions as long a
modified and this statement is not removed;
entitles requires a license agreement (See
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ampe C., van Damme J., de Castro L.A.B., Sampaio M.J.A.M. van Montagu M., Vandekerckhove J.;
"The amino-acid sequence of the 2S sulphur-rich proteins of Brazil nut (Bertholletia excelsa H.B.K.).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gander E.S., Holmstroem K.O., de Paiva G.R., Carnelro M., Grossi de Sa M.F.; "Isolation, characterization and expression albumin from Bertholletia excelsa (Brazil nu Plant Mol. Biol. 16:437-448(1991).
                                              MOD_RES
                                                                                                                                                                                                                                                                 EMBL;
PIR; S
                                                                                                                                                                                                                                                                                         EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         EUR. J. BIOCHEM. 159:597-604(1986).
-!- FUNCTION: THIS IS A 2S SEED STORAGE PROTEIN.
-!- SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL LINKED BY DISULFIDE BONDS.
-!- SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=91370890; PubMed=1840683;
MEDLINE=91370890; PubMed=1840683;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Spermatophyta; Ericales; Lecythidaceae; Bertholletia.
SEQUENCE
                                                                                                                                                       Pfam; PF00234; tryp_alpha_amyl; SMART; SM00499; AAI; 1.
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MEDLINE=87004679; PubMed=3758080;
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InterPro; IPR001768;
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146
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AA;
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36
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142
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391
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                                                                                                                                                                             Cereal_tryp_amyl_inh.
                                                                                                                                                                                           AAI.
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          PYRROLIDONE CARBOXYLIC A
S -> E (IN VARIANT 1A).
EE -> QQ (IN REF. 4).
L -> M (IN REF. 4).
I -> L (IN REF. 4).
                                                                                 LARGE CHAIN 1B
                                                                                                       SMALL CHAIN
 A7DF778FD766410D CRC64;
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Bioinformatics and the EMBL outstation -
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SEQUENCE
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01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
01-OCT-1994 (Rel. 30, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2SS5_HELAN
P15461;
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                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                Seed
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein in sunflower.";
Mol. Gen. Genet. 210:211-218(1987)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=88142538; PubMed=2830455;
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                                                                                                                                                                                                                                                          SIGNAL
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PTM: IT IS POSSIBLE THAT THE 38 KDA PRECURSOR IS CLEAVED POLYPEPTIDES THAT ARE APPROXIMATELY THE SAME SIZE. THE MA PROTEIN IS COMPOSED OF A SINGLE POLYPEPTIDE CONTAINING ON INTRA-MOLECULAR DISULFIDE LINKAGES.
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                                           QERSLRG----CCDHLKQMQSQCRCEGLRQAI----
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S01062; S01062
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yta; eudicotyledons;
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albumin storage protein).
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                  Chefdor F., Cooke R., Berger C., Monfort A., Casacuberta E., Gibbons T., Weber N., Vandenbol M., Bargues M., Terol J., Tor Perez Perez A., Purnelle B., Bent E., Johnson S., Tacon D., J Heijnen L., Schwarz S., Scholler P., Heber S., Francs P., Bie Frishman D., Haase D., Lemcke K., Mewes H.-W., Stocker S., Eaccaria P., Bevan M., Wilson R.K., de la Bastide M., Haberma Parnell L., Dedhia N., Gnoj L., Schutz K., Huang E., Spiegel Sekhon M., Murray J., Sheet P., Cordes M., Abu-Threideh J., Stoneking T., Kalicki J., Graves T., Harmon G., Edwards J., Stoneking T., Kalicki J., Graves T., Harmon G., Edwards J.,
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EMBL; AL161566; CAB79569.1; --
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-!- FUNCTION: THIS IS A 2
-!- SUBUNIT: THE MATURE P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MISCELLANEOUS: THIS IS THE MOST ABUNDANT ISOFORM OF
                                                                                                                                                                                                                                                                                                                                                                                        QERSL-RGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLFSMCGVS 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ARABIDOPSIS.
                                                                                                                                                                                                                                                                      QVDVCPF 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         storage protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JA0161; NWMU1.
S34676; S34676.
                                                                                                                                                                                                                                                                                                                                                            PTE-CRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; PR00496; NAPIN.
; PD002498; Napin; 1.
SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     164 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                 65
                         precursor.
                                                                                                                                               STANDARD;
                                          34, Created)34, Last sequence update)37, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
37
73 2
83
162
164
19014 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   32.0%;
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PROTEIN CONSISTS OF A SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BONDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                              16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 112; DB 1;
Pred. No. 4.9e-06;
6; Mismatches 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2S
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2SS2_ ID AC DT DT DT DT OS OC OC OC OC OC OX

SEQUENCE FROM N.A eurosids II; Brassicai NCBI_TaxID=13395;

2SS2_CAPMA STANDARD; PRT; 155 AA.

P30233; 004774;
01-APR-1993 (Rel. 25, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Mabinin II precursor (MAB II) (Sweet protein).
Capparis masaikai (Mabinlang).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core euerosids II; Brassicales; Brassicaceae; Capparis.

core eudicots;

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139

DCKF 142

62 ECRF 65

85

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CCKQLSQIAPQCRCDSIRRVI-----QGRLGGFLGIWRGEVFKQLQRAQSLPSKCNMG-A 138

Matches

Similarity

Conservative

12;

Mismatches

Indels

12;

Gaps

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RESULT

CAPMA

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Query Match
Best Local 9
                                                                                       PROPEP
CHAIN
                                                                                                                                              InterPro; IPR003612; AAI
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed.
                                                            SEQUENCE
                                                                                                                                                                                                           EMBL; X69912; CAA49537.1; -. HSSP; P07597; 1LIP.
                                                                                                                                                                                                                                                   entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                          This
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Blochet J.E., Kaboulou A
(In) Bushuk W., Tkachuk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gautier M.-F., Aleman M.-F., Guirao A., Marion D., Joudrier P.; "Triticum aestivum puroindolines, two basic cystine-rich seed proteins: cDNA sequence analysis and developmental gene expression."; Plant Mol. Biol. 25:43-57(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Triticeae; Triticum.
                                                                           DOMAIN
                                                                                                                      SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                              Gluten proteins,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=CV. CAPITOLE; TISSUE=Seed; MEDLINE=94272013; PubMed=7516201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                   Membrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 30-148.
                                                                                                                                                                                                                                                                                                            s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the EN European Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION: ACTS AS A MEMBRANOTOXIN, PROBA ANTIBACTERIAL AND ANTIFUNGAL ACTIVITIES,
                                                                                                                                                                                                                                                                                                                                                                                                                             Paul Mi (1991)
                                                                                                                                                                                                                                                                                                                                                                                   DEFENSE MECHANISM OF THE PLANT AGAINST PREDATORS.
                                                                                                                                                                                                                                                                                                                                                                     FIVE DISULFIDE BONDS ARE PRESENT.
                                                                                                                                   Toxin; Antibiotic; Signal.
                                                         20
30
68
148 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kaboulou A., Compoint J.P.,
., Tkachuk R. (eds.);
                                                                                                                                                                                                                                                                                                                                                                                                                                           pp.314-325,
                                                                                      19
29
148
                                                            16792
30.9%;
                                                            MW;
 Score 108; DB 1; Pred. No. 1.3e-05;
                                                                          TRP-RICH
                                                                                                                                                                                                                                                                                                                                                                                                                                            American Association of
                                                                                         PUROINDOLINE-B
                                                                                                                      POTENTIAL.
                                                            327904B4EBEC2C16 CRC64;
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RESULT 10
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DISULFID
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                                                                                                                                    MOD_RES
                                                                                                                                                                                                   CHAIN
PROPEP
                                                                                                                                                                                                                                                        Pfam; PF01631; Seedstore_2S; PRINTS; PR00496; NAPIN.
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MEDLINE=93145958;
                                                                                                                                                                                                                                 Seed storage
                                                                                                                                                                                                                                          SMART;
                                                                                                                                                                                                                                                                       Mendel; 14634; Capma;1175;14634. InterPro; IPR003612; AAI. InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                                                              or send
                                                                                                                                                                                                                                                                                                                                                                                                                                        PARTIAL SEQUENCE, AND DISULFI MEDLINE=94002261; PubMed=8399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Purification, complete amino acid sequence and structural characterization of the heat-stable sweet protein, mabinlin Eur. J. Biochem. 211:281-287(1993).
                                                                                                                                                                                    PROPEP
                                                                                                                                                                                            CHAIN
                                                                                                                                                                                                                           SIGNAI
                                                                                                                                                                                                                                                                                               EMBL; D83997; BAA12204.1;
                                                                                                                                                                                                                                                                                                                      entities requires a
                                                                                                                                                                                                                                                                                                                             modified and
                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                   Biochim.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liu
                                                                                                                                                                                                                   PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                  "Disulfide bridge structure of the heat-stable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 36-68 AND 83-154.
                                         88
                                                  4 SLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQG-QDVFEAFRTAANLPSMCGV
                                                                                                                                                                                                                                                                                                                           European Bioinformatics Institute. There are no restrictions by non-profit institutions as long as its content is in titled and this statement is not removed. Usage by and for continuous and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                         DISULFIDE BONDS.
SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                            SUBUNIT:
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                                       ALROCCNOLROVDRPCVCPVLRQAAQQVLQRQIIQGPQQLRRLFDAARNLPNICNI 143
                                                                      l Similarity 39.3
22; Conservative
                                                                                                                                                                                                                                           SM00499; AAI;
                                                                                                                                                                                                                                                                                                             an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                PD002498; Napin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maeda S.,
                                                                                                                                                                                                                                                                                                                                                                                                                   Biophys. Acta 1202:277-280(1993)
                                                                                                                                    155
155
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 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=8399391;
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153
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                                                                      ; Score 106.5; DE; Pred. No. 2e-05; 11; Mismatches
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                                                                                                                    PYRROLIDONE CARBOXYLIC
PYRROLIDONE CARBOXYLIC
A -> T (IN REF. 1).
A -> T (IN REF. 1).
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                                                                                                                                                                                                                          n; Signal; POTENTIAL.
                                                                                                                                                                                            MABINLIN II,
                                                                                                                                                                                                          MABINLIN II,
 PRT;
                                                                                                                                                                                                                                                                                                                                                                                          SMALL A AND
                                                                                                           72E885DEDCC2D46A CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                          STORAGE PROTEIN
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 178
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                                                                      22;
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                                                                      1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                  mabinlin
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                                                                      Gaps
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EMBL; K01545; AAA33006.1; -.
EMBL; J02586; AAA32997.1; -.
EMBL; J02298; AAA87348.1; -.
PIR; A01329; NWRP2.
PIR; A25907; A25901.
PIR; A25997; A25997.
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cercal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
Pfam; PF00334; tryp_alpha_amyl; 1.
PRINTS; PR00496; NAPIN.
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21-JUL-1986 (Rel. (
21-JUL-1989 (Rel. 1
01-MAR-1989 (Rel. 1
01-AUG-1992 (Rel. 2
Napin 2 precursor (
PROPEP
CHAIN
PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Crouch M.L., Tenbarge K.M., Simon A.E., Ferl R.;
Crouch M.L., Tenbarge K.M., Simon A.E., Ferl R.;
"CDNA clones for Brassica napus seed storage proteins: evidence from nucleotide sequence analysis that both subunits of napin are cleaved from a precursor polypeptide.";
Mol. Appl. Genet. 2:273-283(1983).
-!- FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPINS ARE ONE OF THE TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED IN THE SEED DURII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Josefsson
Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long as its content modified and this statement is not removed. Usage by ar entities requires a license agreement (See http://www.isb-
                                                                                                                 Seed
                                                                                                                                                                                                                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=CV. TOWER;
MEDLINE=84113267; PubMed=6689334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE=87033665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brassica napus.
J. Biol. Chem.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE=87308224; PubMed=3624251;
Josefsson L.-G., Lenman M., Erics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brassica napus (Rape).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;

eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                        SIGNAL
                                                                                                                                    SMART;
                                                                                                                                                      ProDom; PD002498; Napin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REVISIONS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=3708;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Structure of the rapeseed 1.7 S storage protein, napin, and its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LINKED BY DISULFIDE BONDS.
TISSUE SPECIFICITY: COTYLEDONS
SIMILARITY: BELONGS TO THE 2S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED ITS MATURATION.
SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL
                                                                                                           storage
                                                                                                                                 SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chem.
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                                                                                                           protein;
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10. Last sequence update)
23. Last annotation update)
(1.75 seed storage protein).
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                                               SMALL CHAIN
                                                                                                               Multigene family.
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2S SEED STORAGE ALBUMINS FAMILY.
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CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                          modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Newton C.H.;
Submitted (NOV-1991) to
-!- SIMILARITY: BELONGS
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01-AUG-1992 (Rel. 23, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
25 seed storage-ilke protein precursor.
Picea glauca (White spruce).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Coniferopsida; Coniferales; Pinaceae;
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P26986;
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INTERPRO; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
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PIR; S18871; S18871.
HSSP; P01085; 1HSS.
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                                                        EEEEAMERAAYLPNTCNVREPPRRC
                                                                                  DVFEAFRTAANLPSMCGV--SPTEC
                                                                                                              REQPSERCCEELQRMSPQCRCQAIQQMLDQSLSYDSFMDSDSQEDAPLNQRRRREGRGR 13:
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l Similarity 27.1%;
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172 AA;
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Pred. No. 4.2e
L4; Mismatches
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12; Mismatches
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ITRY_SINAR STANDARD;
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01-OCT-1994 (Rel. 30, Created)
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
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SMART; SM00499; AAI; 1.
Seed storage protein; Signal; Multigene
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InterPro; IPR003612; AAI
InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; X58142; CAA41150.1;
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16-OCT-2001
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SUBUNIT: THE MATURE PROTEIN CONSISTS OF A SMALL AND A LARGE CHAIN LINKED BY DISULFIDE BONDS.
TISSUE SPECIFICITY: COTYLEDONS AND THE AXIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . J. Biochem. 197:741-746(1991).
FUNCTION: THE SMALL, BASIC, WATER-SC
TWO MAJOR KINDS OF STORAGE PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE SPECIFICITY: COTYLEDONS AND THE AXIS. SIMILARITY: BELONGS TO THE 2S SEED STORAGE ALBUMINS FAMILY.
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231016; PubMed=2029903;
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23, Last sequence update)
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(1.75 seed storage protein).
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SMALL CHAIN (BY SIMILARITY).
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LARGE CHAIN (BY SIMILARITY).
4W; 96CE0ADB7CD966E9 CRC64;
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Pred. No. 6.5e
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les 23;
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01-OCT-1993 (ReJ
01-OCT-1993 (ReJ
01-NOV-1997 (ReJ
PUDZU,; rovzi,
01-OCT-1933 (Rel. 27, Created)
01-OCT-1993 (Rel. 27, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
01-NOV-1997 (Rel. 35, Last annotation update)
Allergen Bra j 1-E, small and large chains (Bra j I).
Allergen Bra j 1-E, small and large chains (Bra j I).
Brassica juncea (Leaf mustard) (Indian mustard).
Brassica juncea (Leaf mustard) (Indian mustard).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Eukaryota; Viridiplantae; Streptophyta; endicotyledons; core eudicots; Rosidae;
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InterPro; IPR000617; Napin.
Pfam; PF01631; Seedstore_29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=94350545; PubMed=8070965;
Svendsen I.B., Nicolòva D., Goshev I., Genov N.;
Svendsen I.B., Nicolòva D., Goshev I., Genov N.;
"Primary structure, spectroscopic and inhibitory proper chain trypsin inhibitor from the seeds of charlock (Sin L), a member of the napin protein family.";
Int. J. Pept. Protein Res. 43:425-430(1994);
-i- FUNCTION: INHIBITS TRYPSIN WITH A KI OF 7 x 10(-6)
-i- SUBBUNIT: THE PROTEIN CONSISTS OF TWO CHAINS LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Sinapis.
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01-MAR-1989 (Rel.
01-AUG-1992 (Rel.
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                                                                                                                                                                                                                                                                        MEDLINE=87308225; PubMed=3040733; Scofield S.R., Crouch M.L.;
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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Eukaryota; Viridiplantae; Streptophyta;
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Napin embryo specific
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LINKED BY TWO DISULPIDE BONDS.
                                    DEVELOPMENTAL STAGE: EMBRYO SIMILARITY: BELONGS TO THE
                                                                              TIS MATURATION.
SUBUNIT: THE MATURE PROTEIN CONSISTS OF LINKED BY DISULFIDE BONDS.
TISSUE SPECIFICITY: COTYLEDONS AND THE F
                                                                                                                                                                Biol. Chem. 262:12202-12208(1987).
FUNCTION: THE SMALL, BASIC, WATER-SOLUBLE NAPINS
TWO MAJOR KINDS OF STORAGE PROTEINS SYNTHESIZED:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LRGCCDHLKQMQSQCRC---EGLRQAIEQQ-QSQGQLQGQ------DVFEAFRTAANLP 53
    SWISS-PROT entry is
                                                                                                                                                                                                                               Brassica napus."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LQQCCNELHQEEPLCVCPTLKGASKAVKQQIRQQGQQQQQQQQQQQQQQQQQHEISRIYQTATHLP 108
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ALIGNMENTS

RESULT Q9S872 ID 98872 DT DT 07 DT 0 δõ 밁 Qy Query Match Best Local Similarity Matches Q9S872 PRELIMINARY; PRT; 65 AA. Q9S872; Q9S872; 01-MAY-2000 (TrEMBLrel. 13, Created) 01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-JUN-2001 (TrEMBLrel. 17, Last annotation update) 7.3 KDA NAPIN-LIKE PROTEIN LARGE CHAIN (FRAGMENT). Ricinus communis (Castor bean). Ricinus communis (Castor bean). Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I; Malpighiales; Euphorbiaceae; Ricinus. protein kinase."; Biochim. Biophys. Acta 1298:223-240(1996). InterPro; IPR003612; AAI. InterPro; IPR003617; Napin. PRINTS; PR00496; NAPIN. SMART; SM00499; AAI; 1. SEQUENCE 65 AA; 7350 MW; CB9264C4C917F. Neumann G.M., Condron R., Polya G.M.; "Purification and sequencing of napin-like protein small and large chains from Momordica charantia and Ricinus communis seeds and determination of sites phosphorylated by plant Ca(2+)-dependent MEDLINE=97135090; PubMed=8980648; SEQUENCE NCBI_TaxID=3988; 61 TECRF 65 64; Conservative 99.1%; 98.5%; 1; Score 347; DB 10; Pred. No. 3.7e-35; 1; Mismatches 0 CB9264C4C917F498 CRC64; 0 Length 65; Indels 0 Gaps

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EMBL; AF24UUV., ...

HSSP; P01085; 1HSS.

InterPro; IPR003612; AAI.

InterPro; IPR0001768; Cereal_tryp_amyl_inh.

InterPro; IPR000480; Glutelin.

R InterPro; IPR000617; Napin.

JR Pfam; PF00234; tryp_alpha_amyl; 1.

PRINTS; PR00211; GLUTELIN.

PRINTS; PR00496; NAPIN.
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01-MAY-1997 (TrEMBLrel. 19, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
ALBUMIN SEED STORAGE PROTEIN (FRAGMENT).
Juglans regia (English walnut).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Roside eurosids I; Fagales; Juglandaceae; Juglans.
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InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR001480; Glutelin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00211; GLUTELIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Teuber S.S., Dandekar A.M., Peterson W.R.;
"Juglans regia 2S albumin seed storage protein
Submitted (AUG-1996) to the EMBL/GenBank/DDBJ c
EMBL; U66866; AAB41308.1; -.
                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

Tai S.S.K., Tzen J.T.C.;

Tai S.S.K., Tzen J.T.C.;

"Molecular cloning of three
Submitted (MAR-2000) to the
EMBL; AF240005; AAK15088.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sesamum indicum (Oriental sesame) (dingelly).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Lamiales; Pedaliaceae; Sesamum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-DEC-2001 (TrEMBLrel. 19,
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44.48;
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Pred. No. 1.3e-12;
3; Mismatches 22;
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AC 091RC2;

DT 01-0CT-2000 (TrEMBLrel. 15, Last sequence update,
DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE 28 ALBUMIN.

OS Bertholletia excelsa (Brazil nut).
CC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnollophyta; eudicotyledons; core eudicots;
Asteridae; Ericales; Lecythidaceae; Bertholletia.
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Best Local :
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01-JUN-2001
01-JUN-2001
01-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART; SM
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9AVK2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lycopersicon esculentum (Tomato).
Eukaryota; Viridiplantae; Streptcophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Solanales; Solanaceae; Solanum.
  Yamauchi D.;
"Brazīl nut 2S albumin was synthesized in a traised with a promoter of the gene for canavalin, canavalia gladiata.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR003612; AAI.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (SEP-2000) to the EMBL; AB048731; BAB39169.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oguri S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-CV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=4081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LEC2SA1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERSLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCNQLEQTQDPQCRCEGLMKVVQQEEQTGKVQGRQRQQMLQTAENLPGLCRLSPQRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCDHLKOMOS-QCRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSPTEC
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CE 153 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity 43.9
25; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (TremBLrel. 17, Created)
(TremBLrel. 17, Last sequence update)
(TremBLrel. 18, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
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7401
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17504 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 158;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 150.5;
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E279B33EDAD0A2D6
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1.1e-11;
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lin, 7S globulin from
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EMBL/GenBank/DDBJ databases.

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RESULT
OPFH31
IDPH31
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OF
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Best Local Similarity
"~+~hes 27; Conserv
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Best Local
Matches 2
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Interpro; IPR001768; Cereal_tryp_amyl_inh.
Interpro; IPR001768; Cereal_tryp_amyl_inh.
Interpro; IPR00617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
PRINTS; PR00808; AMLASEINHBTR.
PRINTS; PR00409; AMLASEINHBTR.
SMART; SM00499; AAI; I.
SEQUENCE 146 AA; 16910 MW; 4A69A196E6EC7
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O1-MAR-2001 (TrEMBLrel. 16,

O1-OCT-2001 (TrEMBLrel. 18,

O1-OCT-2001 (TrEMBLrel. 18,

25 STORAGE PROTEIN-LIKE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Clones.";
clones. 7:31-63(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana (Mouse-ear cress).

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;

eurosids_II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                Pfam; PF00234; tryp_alpha_amyl; PRINTS; PR00496; NAPIN. SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sato
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9FH31
                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AB022214; BAB09940.1; -.
InterPro; IPR00361; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh
InterPro; IPR000617; Napin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            features
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tabata S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (JUN-2000) to the EMBL; AB044391; BAA96554.1; HSSP; P01087; 1B1U.
  154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Structural analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          135
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TVGSCQF
                                               T--ECRF 65
                                                                                     QQSSLKMCCNELRQVDKMCVCPTLKKAAQQVRFQGMHGQQQVQHVFQTAKNLPNVCKI-P
                                                                                                                               QERSLRGCCDHLKQMQSQCRCEGLRQAIEQQQSQGQLQGQDVFEAFRTAANLPSMCGVSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MRC 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EPHMSECCEQLEGMDESCRCEGLRMMMRMMQQKEMQPRGEQMRRMMRLAENIPSRCNLSP 134
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nakamura Y.,
                                                                                                                                                                            37.3%;
nilarity 40.3%;
Conservative 1
                                                                                                                                                                                                                                                                                           165 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=10718197;
Y., Kaneko T., Katoh T.,
                                                                                                                                                                                                                                                                                         18871 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of
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Last annotation updat
                                                                                                                                                                          Score 130.5; DB 10
Pred. No. 2.6e-08;
4; Mismatches 23;
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Pred. No. 1.3e-08;
0; Mismatches 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                             E93C812727F10D0F CRC64;
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5 bp covered by sixty
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Best Local S
Matches 23
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Plant J. 4:793-800(1993).

( EMBL; D16560; BAA03993.1; -.

R InterPro; IPR003612; AAI.

R InterPro; IPR001768; Cereal_tryp_amyl_inh.

R InterPro; IPR000617; Napin.

"" InterPro; IPR001768; Cereal_tryp_amyl_inh.
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Q39649;
01-NOV-1996
                                                                                                                                                                                                                                            01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-OCY-2001 (TrEMBLrel. 18, Last annotation update)
7.9 KDA NAPIN-LIKE PROTEIN LARGE CHAIN (FRAGMENT).
Momordica charantia (Bitter gourd) (Balsam pear).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta
Spermatcphyta; Magnollophyta; eudicotyledons; core (eurosids I; Cucurbitales; Cucurbitaceae; Momordica.
protein kinase.";
Biochim. Biophys. Acta 1298:223-240(1996)
InterPro; IPR003612; AAI.
                                                                                             MEDLINE-97135090; PubMed-8980648; Neumann G.K., Condron R., Polya G.M.; Neumann G.K., Condron R., Polya G.M.; Purification and sequencing of napin-like protein small and chains from Momordica charantia and Ricinus communis seeds an
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SIGNAL
CHAIN
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MEDLINE-97135090;
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                                                                                                                                                                                                                          NCBI_TaxID=3673;
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Hara-Nishimura I., Takeuchi Y., I
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Pred. No. 2.5e
l1; Mismatches
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081410;
01.NOV-1998 (TrEMBLrel. 08,
01-NOV-1998 (TrEMBLrel. 08,
01-DEC-2001 (TrEMBLrel. 19,
MIBUMIN_LIKE STORAGE PROTEIN
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J. Agric. Food Chem. 47:4932-4938(1999).
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InterPro; IPR000617; Napin.
Pfam; PF00234; tryp_alpha_amyl; 1.
ProDom; PD002498; Napin; 1.
SMART; SM00499; AAI; 1.
SEQUENCE 66 AA; 7869 MW; 29989A217252E
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PRINTS; PR00496; NAPIN.
SMARR; SM00499; AAI; 1.
SEQUENCE 148 AA; 17524 MW; E
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Lamiales; Pedaliaceae; Sesamum.
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01-NOV-1999 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
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InterPro; IPR001768; Cereal_tryp_amyl_inh.
InterPro; IPR000617; Napin.
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01-NOV-1999
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23; Conservative :
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Pred. No. 2.6e
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Pred. No. 1.4e-07;
3; Mismatches 24
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                       sequence update)
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Best Local Similarity 43.8
Matches 21; Conservative
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Q40850;
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EMBL; AF074937; AAC34613.1; -.
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
SMART; SM00499; AAI; 1.
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Submitted (SEP-2001) to the EMBL/GenBank/DDBJ databases.
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid
eurosids II; Brassicales; Moringaceae; Moringa.
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Eukaryota; Viridiplantae; Stre
Spermatophyta; Coniferopsida;
NCBI_TaxID-3330;
                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-SEED;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=3735;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dong J.-Z., Dunstan D.I.;
"White spruce albumin-like cDNA EMB36.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                                     CCQQLRNISPPCRCPSLRQAVQLTHQQQGQVGPQQVRQMYRVASNIPS
                                                                                                                                                                                                                                               CCDHLKQMQSQCRCEGLRQAIE-QQQSQGQLQGQDVFEAFRTAANLPS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCEELQRMSPQCRCQAIQQTLEDVFMDSDSQDGAPLNQRRGQGRGMEEEEVLRRAEELPN 135
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11;
  Last sequence up
                                              Created)
                                                                                                                                                                                                                                                                                      Score 113.5;
Pred. No. 1e-0
9; Mismatches
                                                                                                                                                                                                                                                                                             9;
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Last annotation update)
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Pred. No. 7.4e
ll; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                         9446229477B627E2 CRC64
                                                                                            PRT;
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No. 1e
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01-NOV-1996
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2S ALBUMIN S'
                                                                                                                                                                                                           Signal
SIGNAL
                                                                                                                                                                                                                                        albumin storage protein.";
Submitted (JAN-1992) to the EMBL/GenBank/DDBJ databases.
EMBL; M8301; AAA33049.1; -.
InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid eurosids II; Malvales; Malvaceae; Gossypium.
NCBI_TaxID=3635;
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Q39787;
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                                                                                                                                                                                                                                                                                                                                                         Galau G.A., Wang H.Y.-C., Hughes D.W.; "Cotton Mat5 (C164) gene_and cDNAs encoding a methionine-rich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR003612; AAI.
InterPro; IPR001768; Cereal_tryp_amyl_inh.
Pfam; PF00234; tryp_alpha_amyl; 1.
SMART; SM00499; AAI; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Vir
Spermatophyta;
                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gossypium hirsutum (Upland cotton).
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Submitted (JUN-1996) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dong J.-Z., Dunstan
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                   CCDHLKQMQSQCRCEGLRQAIEQQQSQ-----GQLQGQDVFEAFRTAANLPSMCGVSPTE 62
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CCQQLEKMDTQCRCQGLRHATMQQMQQMQEQMGSKQMREIMQ--KVTKNIMSECEMEPGR 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             glauca (White spruce).
Yorta; Viridiplantae; Streptophyta; Embryophyta;
Natophyta; Coniferopsida; Coniferales; Pinaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STORAGE PROTEIN
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23; Conservative
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(TIEMBLIEL 01, Last sequence update)
(TIEMBLIEL 19, Last annotation update)
STORAGE PROTEIN PRECURSOR.
                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                           201; TISSUE-COTYLEDON;
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59 2
139 2
15831 MW;
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36.1%;
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                                                         Score 112.5; 1
Pred. No. 3.4e
11; Mismatches
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Pred. No. 3.1e
14; Mismatches
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2S ALBUMIN STORAGE PROTEIN.
2S ALBUMIN STORAGE PROTEIN.
43ACF35FE97D19B4 CRC64;
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                                                                  i.4e-06;
ies 21;
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les 19;
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Picea.
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01-NOV-1996
01-DEC-2001
2S ALBUMIN P
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Q39928;
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CHAIN
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Galau G.A., Wang H.Y.-C., Hughes D.W.;

Galau G.A., Wang H.Y.-C., Hughes D.W.;

"Cotton Mat5-A (C164) gene and Mat5-D cDNAs encoded by the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of th
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Pfam; PF00
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Napier J.A., Shewry P.R.;
Submitted (NOV-1993) to the
EMBL; X76101; CAA53710.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Asteridae; euasterids II; Asterales; Asteraceae; Asteroideae; Heliantheae; Helianthus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=4232;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -NOV-1996 (TrEMBLrel. 01, Created)
-NOV-1996 (TrEMBLrel. 01, Last sequence update)
-DEC-2001 (TrEMBLrel. 19, Last annotation update)
-ALBUMIN PRECURSOR (FRAGMENT).
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pro; IPR003612; AAI.
pro; IPR001768; Cereal_tryp_amyl_inh
pro; IPR000617; Napin.
pr00234; tryp_alpha_amyl; 2.
s; PR00496; NAPIN.
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23; Conserv
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Pred. No. 3.4e-06;
0; Mismatches 23;
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